Leaks:

Q.CLF:EN.1-2: Admit that since January 2010 there have been leaks of radioactive material and radionuclides at the VT Yankee Nuclear Power facility in Vernon, Vermont.

A.CLF:EN.1-2: OBJECTION. The term "material" is vague and ambiguous.

Without waiving any objection, Entergy VY responds:

ADMITTED that during the period from January 2010 until February 15, 2010, a fluid stream containing radionuclides was released from a pipe tunnel on the west side of the Advanced Off-Gas ("AOG") building at the Vermont Yankee Nuclear Power Station (the "VY Station"). Otherwise, DENIED.

Person Responsible for Response: Timothy C. Trask
Title: Chief Engineer—Boiling Water Reactors
Date: April 12, 2010

Q.CLF:EN.1-3: Admit that the above referenced leaks have resulted in radioactive material and radionuclides, including tritium, being discharged into the ground.

a. Admit that cobalt-60 and zinc-65 are dangerous radioactive isotopes.

b. Admit that in late January 2010 cobalt-60 and zinc-65 were present in water in areas at the facility where they should not be, including in an underground trench.

c. Admit that water with the cobalt-60 and zinc-65 was not contained in an area capable of preventing release into the environment, including into the ground and groundwater at the site.

d. If denied, identify all facts, and produce all documents on which Entergy VY relies to support its denial.

A.CLF:EN.1-3: OBJECTION. The request is vague and ambiguous (*e.g.*, definition of "material," "where they should not be"). In sub-question (b), the question does not specify the location or date of the referenced leak. Sub-questions (a), (b), and (c) are vague and ambiguous and call for speculation. The question is also overly broad and unduly burdensome in that the request in subsection (d) for "all documents" would require Entergy VY to search for and to assemble a voluminous amount of information from its records at substantial expense.

Without waiving any objection, Entergy VY responds:

ADMITTED that during the period from January 2010 until February 15, 2010, a fluid stream containing radionuclides, including tritium, was released from a pipe tunnel on the west side of the AOG building at the VY Station. Otherwise, DENIED.

a. ADMITTED that cobalt-60 and zinc-65 are radioactive isotopes that are subject to Nuclear Regulatory Commission ("NRC") and Environmental Protection Agency ("EPA") regulation. However, Entergy VY DENIES the categorical statement that these isotopes are "dangerous" on grounds that first, the request requires a subjective judgment as to what is deemed "dangerous" and second, any health hazard from the listed isotopes depends on, among other things, the quantity of the isotopes, the duration and manner of human exposure, the distance from the source and any shielding present between humans and the source. In particular, cobalt-60 and zinc-65 are relatively short-lived isotopes, which, if contained in a location where they will not be exposed to humans, will harmlessly decay to stable (non-radioactive) isotopes. Cobalt-60 has a half-life of approximately 5.3 years and decays to non-radioactive nickel-65. By way of example, in the course of ten years, approximately 73 percent of an original quantity of cobalt-60 will decay to non-radioactive nickel-65. Zinc-65 has a half-life of approximately 244 days. Also by way of example, in the course of ten years, approximately 99.997 percent of an original quantity of zinc-65 will decay to non-radioactive copper-65. Furthermore, the NRC recognizes the principle that certain quantities of these isotopes pose no significant health hazard, as evidenced by the fact that NRC regulations do not prohibit releases of these isotopes in small quantities. *See* 10 C.F.R. Part 20, Appendix B. Otherwise, DENIED.

b. ADMITTED that on January 13, 14 and January 17, 2010, water containing cobalt-60 and zinc-65 was identified within the Radioactive Waste pipe tunnel. This standing water within the Radiologically Controlled Area of the VY Station is not related to the release from the AOG pipe tunnel on the west side of the AOG building at the VY Station. The Radioactive Waste pipe tunnel was identified to be free of leakage to the environment via the location of a nearby groundwater-monitoring well (GZ-6), samples from which indicated tritium concentrations of less than Minimum Detectable Activity ("MDA") since the date of installation. ADMITTED also that during the time period from January 2010 until February 15, 2010, a fluid stream containing cobalt-60 and zinc-65 was released from the pipe tunnel on the west side of the AOG building at the VY Station. The cobalt-60 and zinc-65 isotopes were contained within soil. Otherwise, DENIED.

c. ADMITTED that during the time period from January 2010 until February 15, 2010, a clogged tunnel drain allowed an accumulation of condensate containing cobalt-60 and zinc-65, which were released from the pipe tunnel on the west side of the AOG building at the VY Station. The cobalt-60 and zinc-65 isotopes were contained within soil. Otherwise, DENIED.

d. See the Sworn Affidavits and Exhibits of Timothy G. Mitchell, Timothy C. Trask, Jeffery A. Hardy, Michael Shaw and David P. Tkatch. See also Attachment A.CLF:EN.1-3d, which provides sample results from groundwater-monitoring well GZ-6.

Person Responsible for Response: Jeffery A. Hardy
Title: Chemistry Manager
Date: April 12, 2010

Q.CLF:EN.1-4: Admit that the discharges into the ground have contaminated groundwater at the VT Yankee site.

a. If denied, identify all facts, and produce all documents on which Entergy VY relies to support its denial.

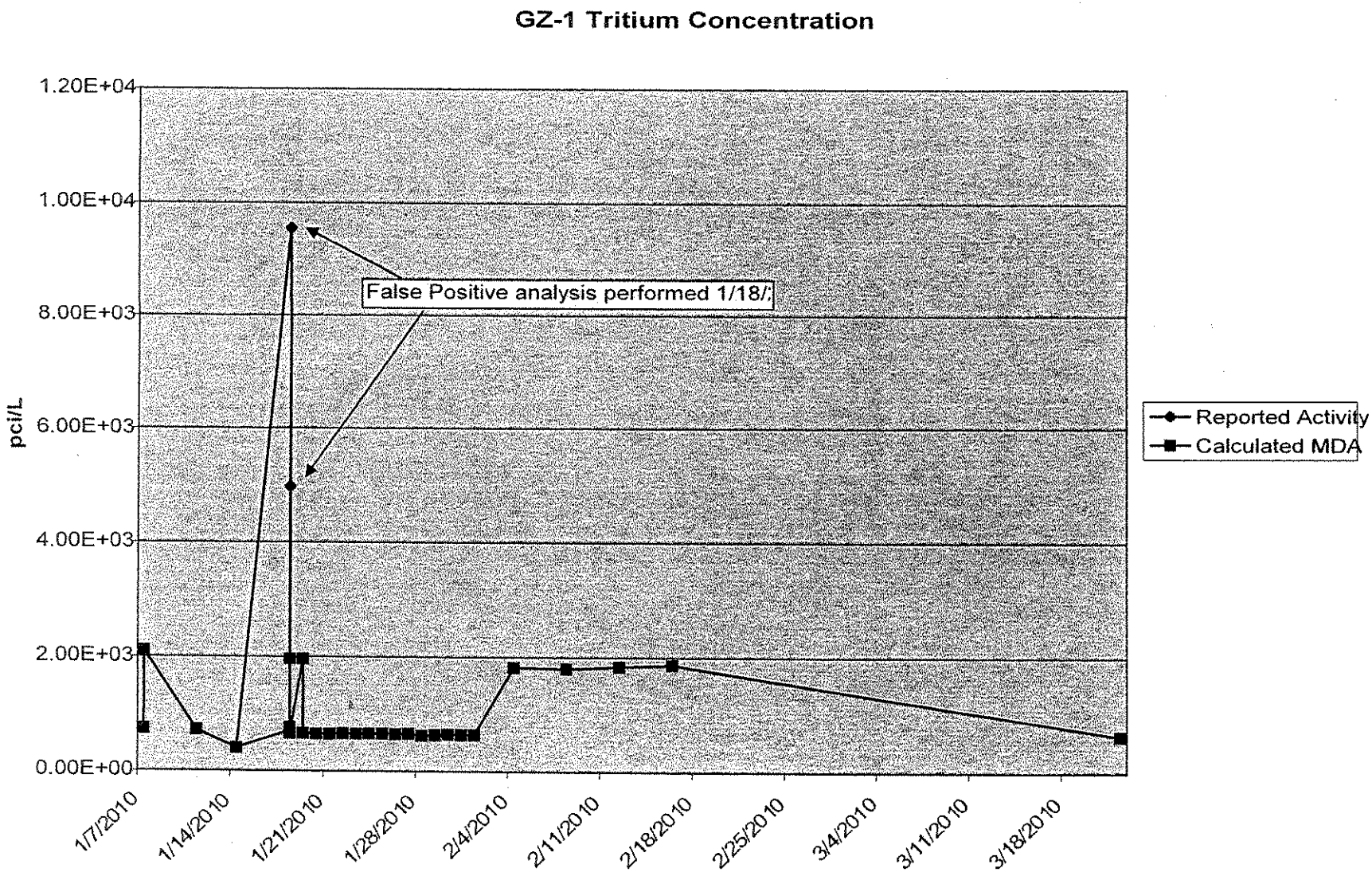
A.CLF:EN.1-4: OBJECTION. The question is vague and ambiguous in that it does not specify what "the discharges" are. Entergy VY interprets "the discharges" to refer to the leaks referenced in Q.CLF:EN.1-2.

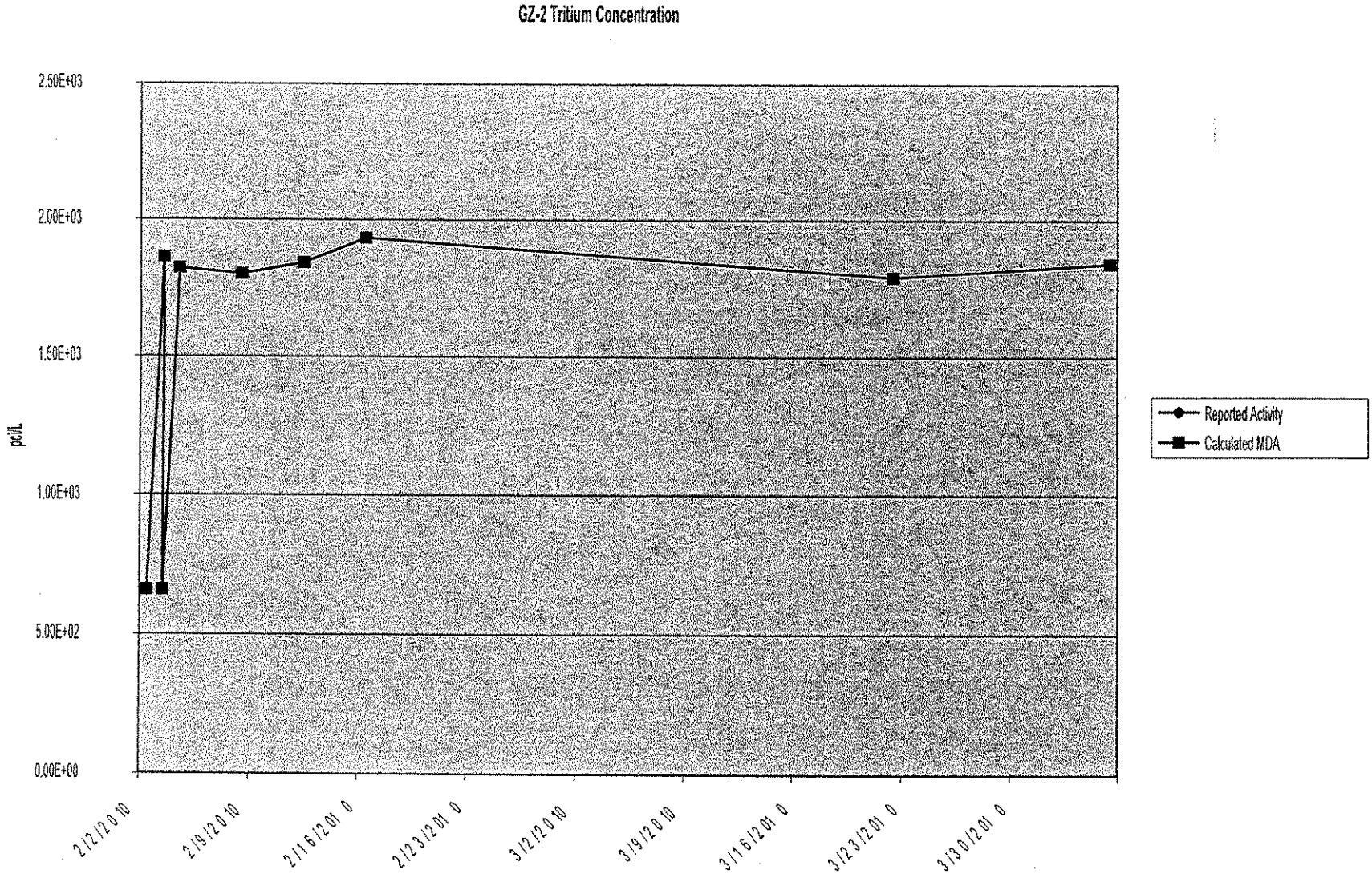
Without waiving any objection, Entergy VY responds:

ADMITTED that during the period from January 2010 until February 15, 2010, a fluid stream containing radionuclides was released from a pipe tunnel on the west side of the AOG building at the VY Station. Further ADMITTED that the VY Station has detected tritium in groundwater. Otherwise, DENIED.

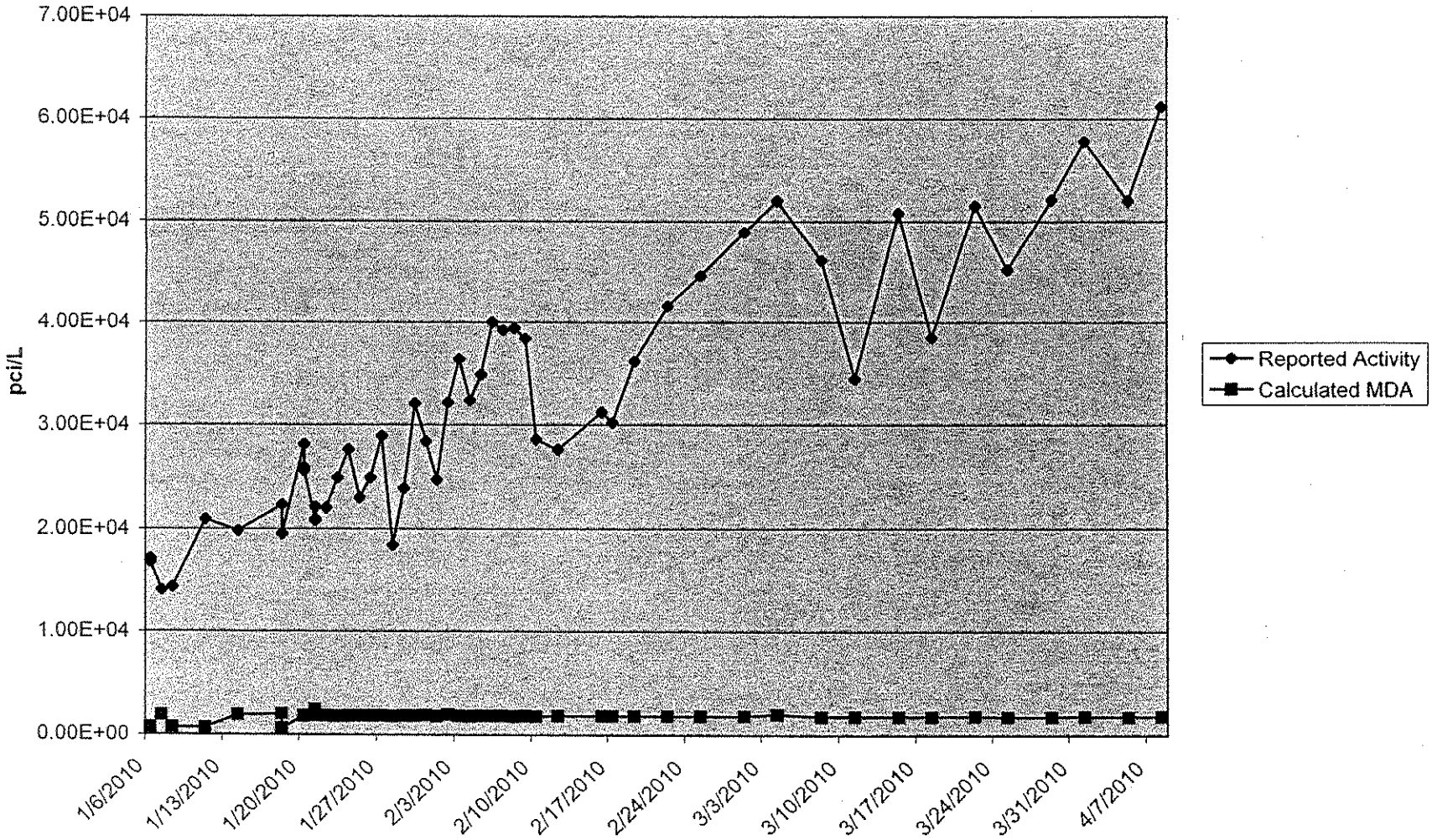
a. See the Sworn Affidavits and Exhibits of Timothy G. Mitchell, Timothy C. Trask, Jeffery A. Hardy, Michael Shaw and David P. Tkatch. See Attachment A.CLF:EN.1-4a, which provides the results of testing for tritium in groundwater-monitoring wells for the dates after the data provided in Mr. Hardy's Affidavit and Exhibits through April 9, 2010. See also A.CLF:EN.1-3d.

Person Responsible for Response: Jeffery A. Hardy
Title: Chemistry Manager
Date: April 12, 2010

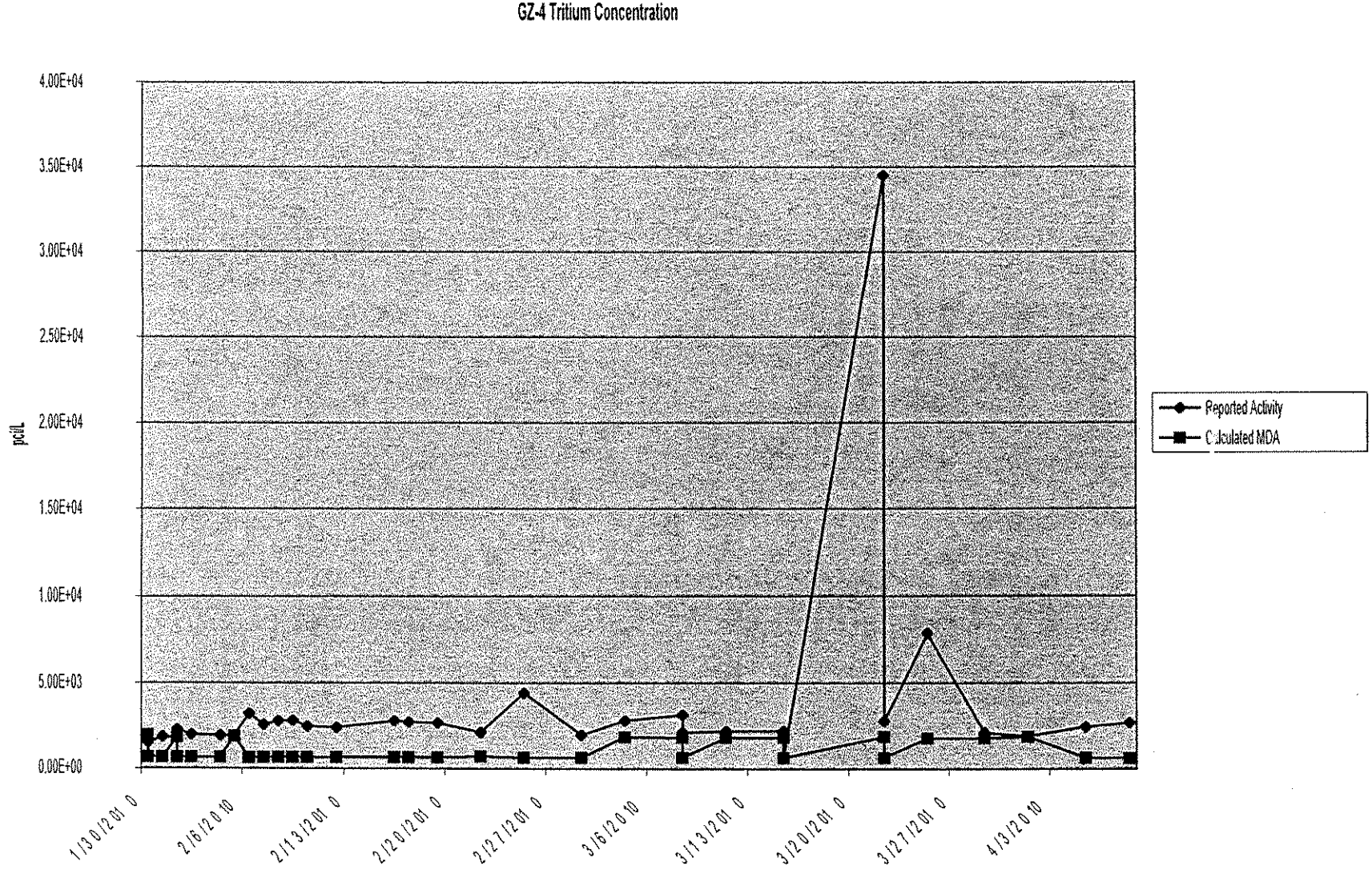

GZ-1 Tritium Concentration
1.20E+04
1.00E+04
8.00E+03
6.00E+03
4.00E+03
2.00E+03
0.00E+00
pci/L
False Positive analysis performed 1/18/
Reported Activity
Calculated MDA
1/7/2010
1/14/2010
1/21/2010
1/28/2010
2/4/2010
2/11/2010
2/18/2010
2/25/2010
3/4/2010
3/11/2010
3/18/2010


GZ-2 Tritium Concentration
2.50E+03
2.00E+03
1.50E+03
1.00E+03
5.00E+02
0.00E+00
pCi/L
2/2/2010
2/9/2010
2/16/2010
2/23/2010
3/2/2010
3/9/2010
3/16/2010
3/23/2010
3/30/2010
Reported Activity
Calculated MDA

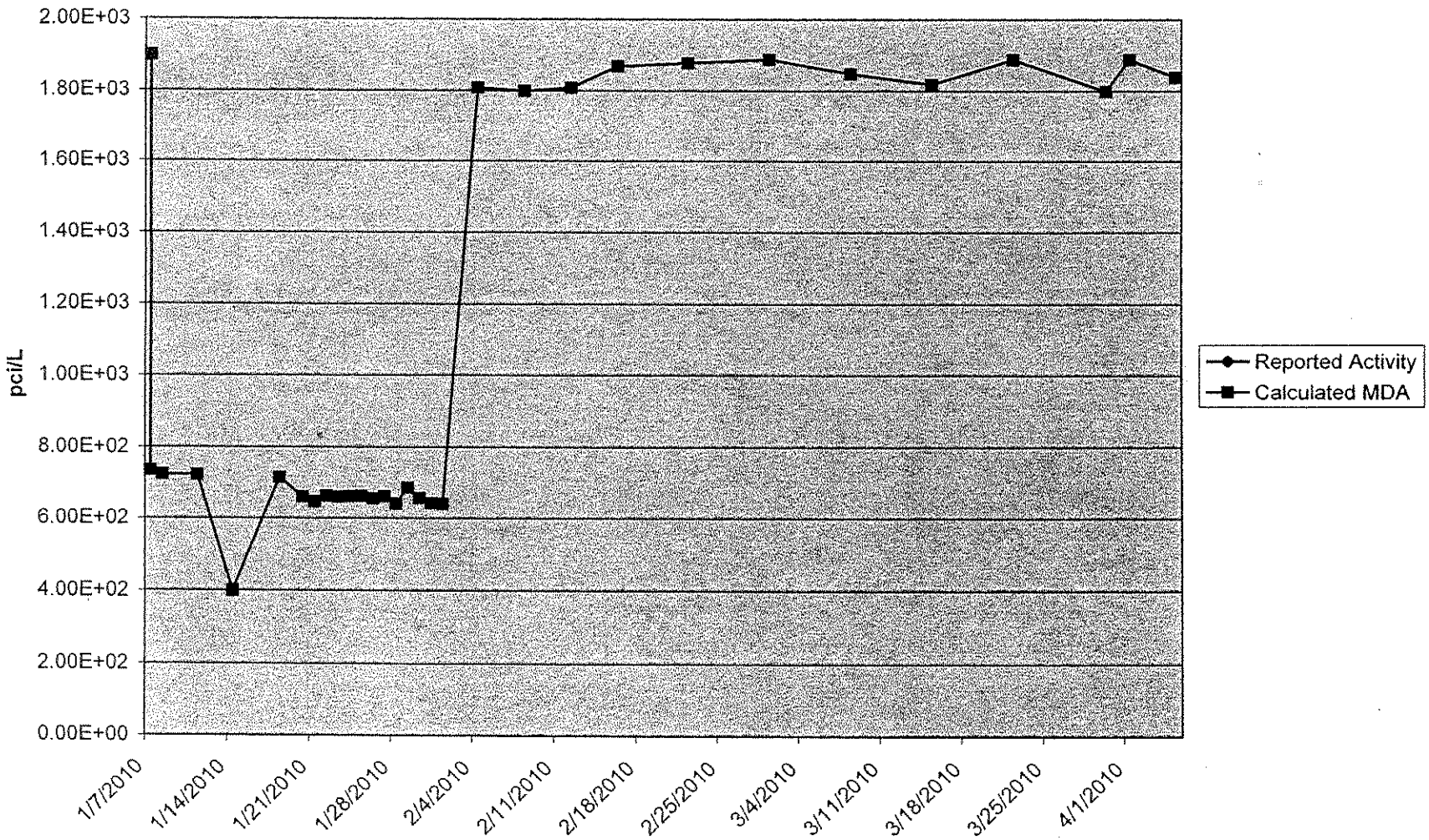
GZ-3 Tritium Concentration



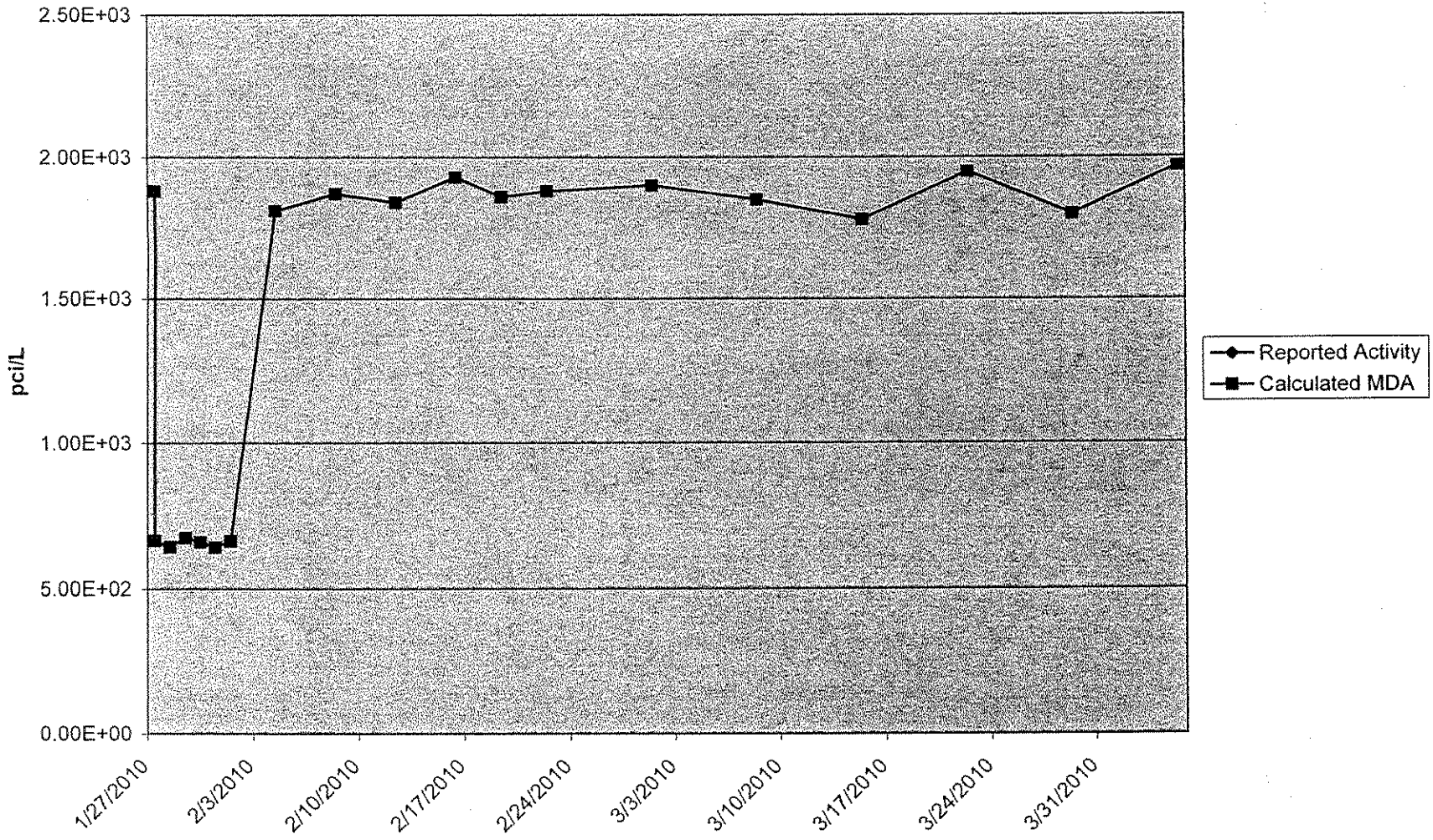
VYTIN000009


GZ-4 Tritium Concentration
4.00E+04
3.50E+04
3.00E+04
2.50E+04
2.00E+04
1.50E+04
1.00E+04
5.00E+03
0.00E+00
pCi/L
Reported Activity
Calculated MDA
1/30/2001 0
2/6/2010
2/13/2001 0
2/20/2001 0
2/27/2001 0
3/6/2010
3/13/2001 0
3/20/2001 0
3/27/2001 0
4/3/2010

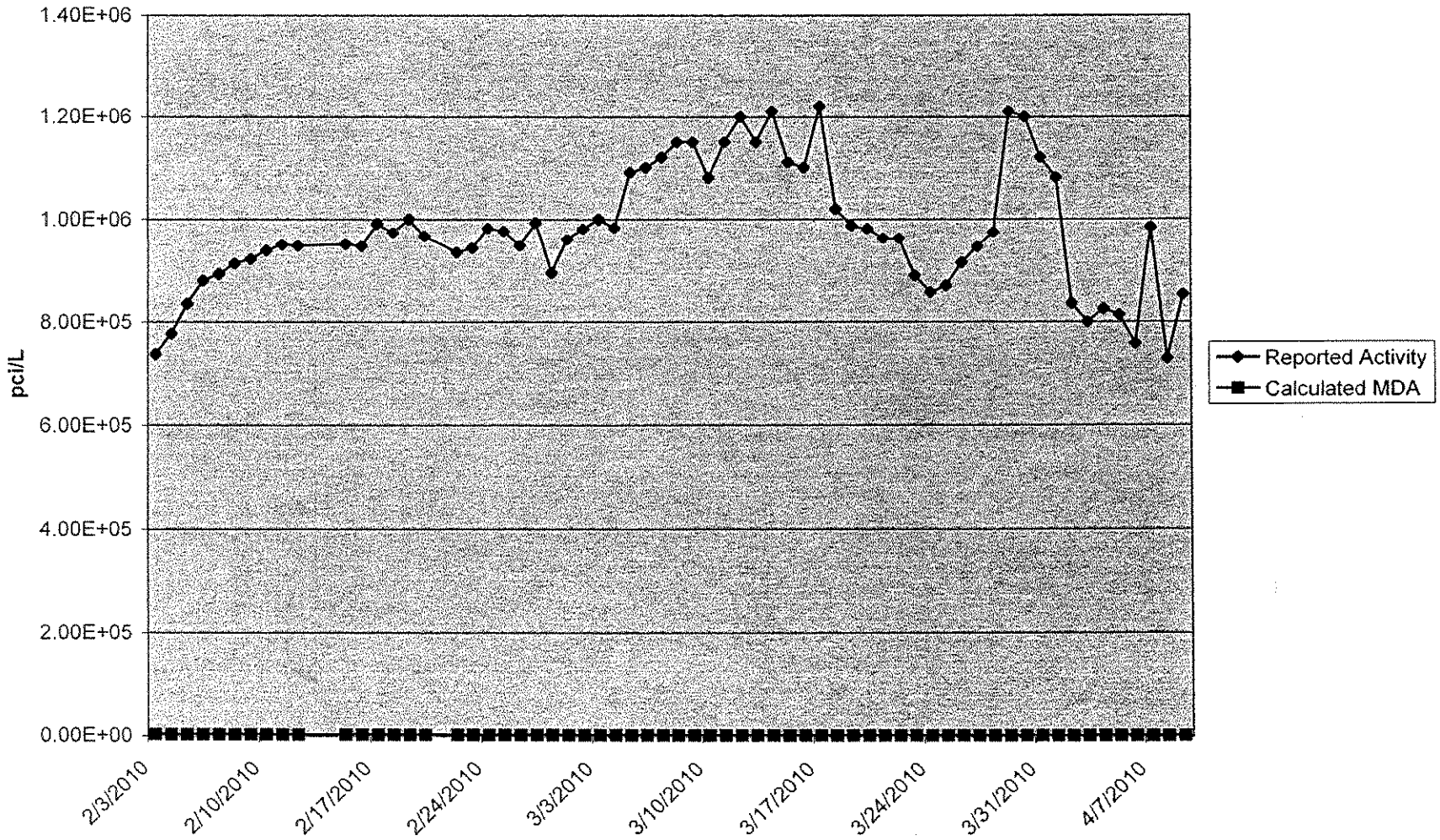
GZ-5 Tritium Concentration



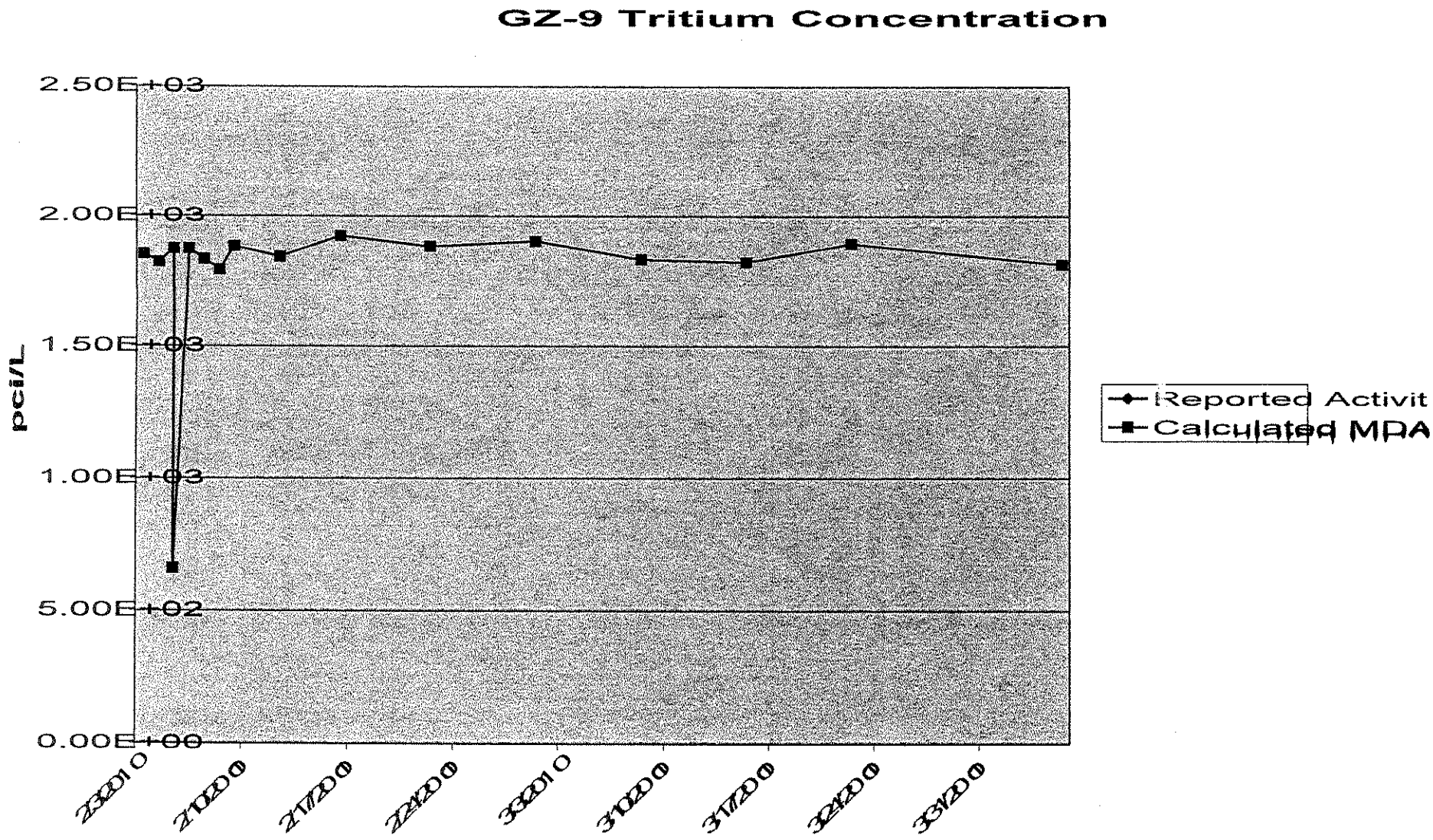
GZ-6 Tritium Concentration

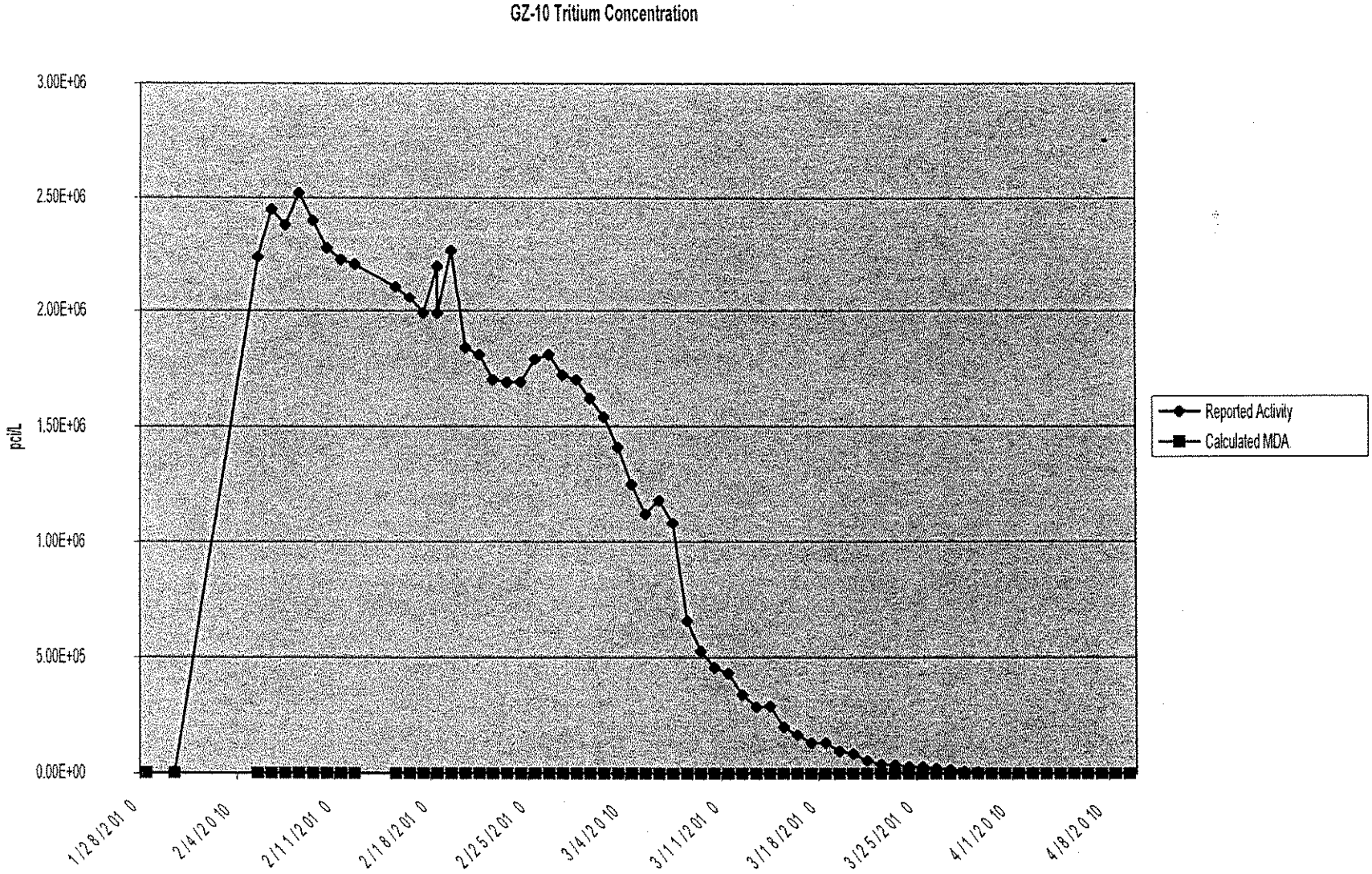


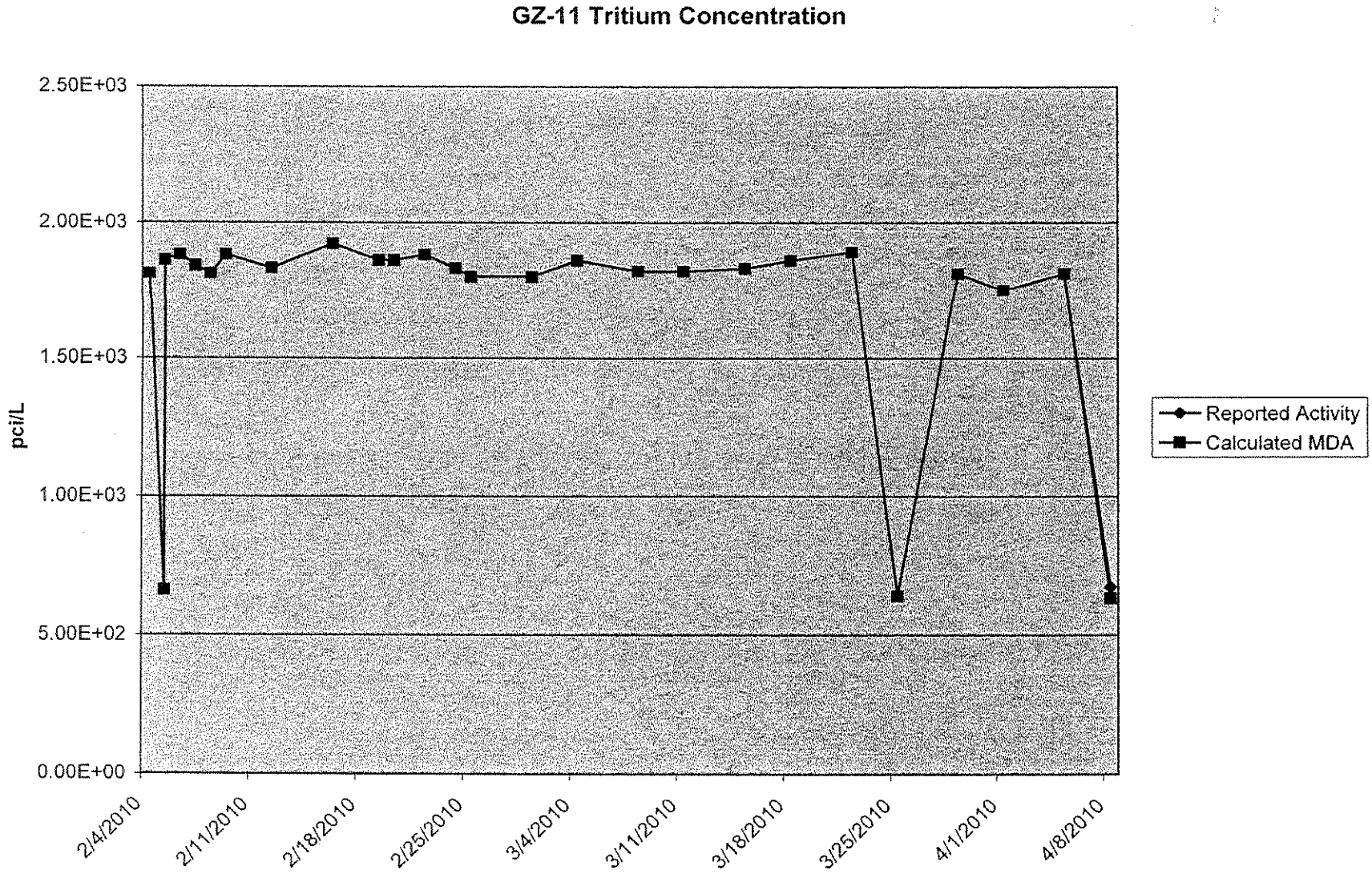
GZ-7 Tritium Concentration



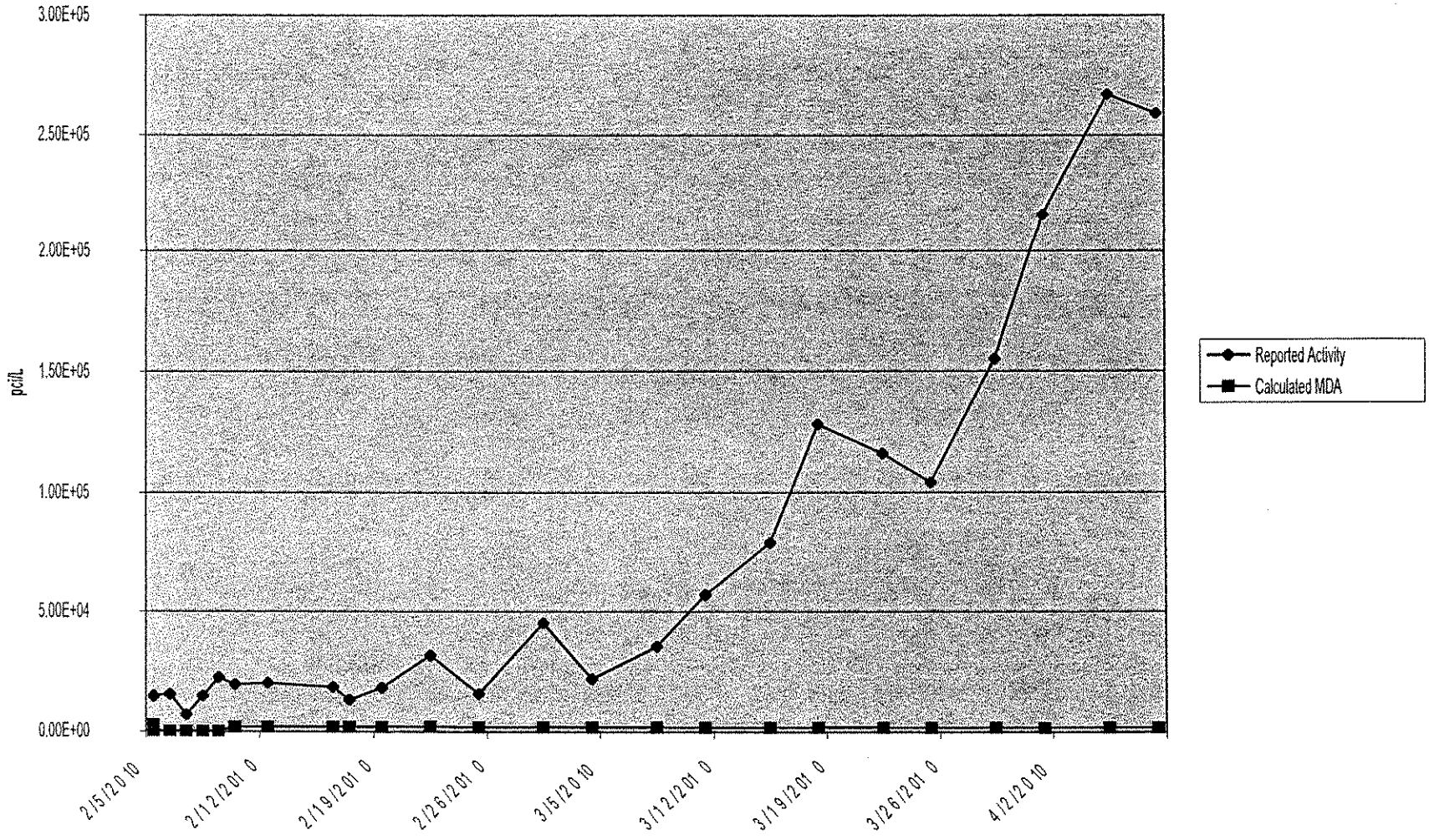
VYTiN000013


GZ-9 Tritium Concentration
2.50E+03
2.00E+03
1.50E+03
1.00E+03
5.00E+02
0.00E+00
pci/L
Reported Activit
Calculated MDA

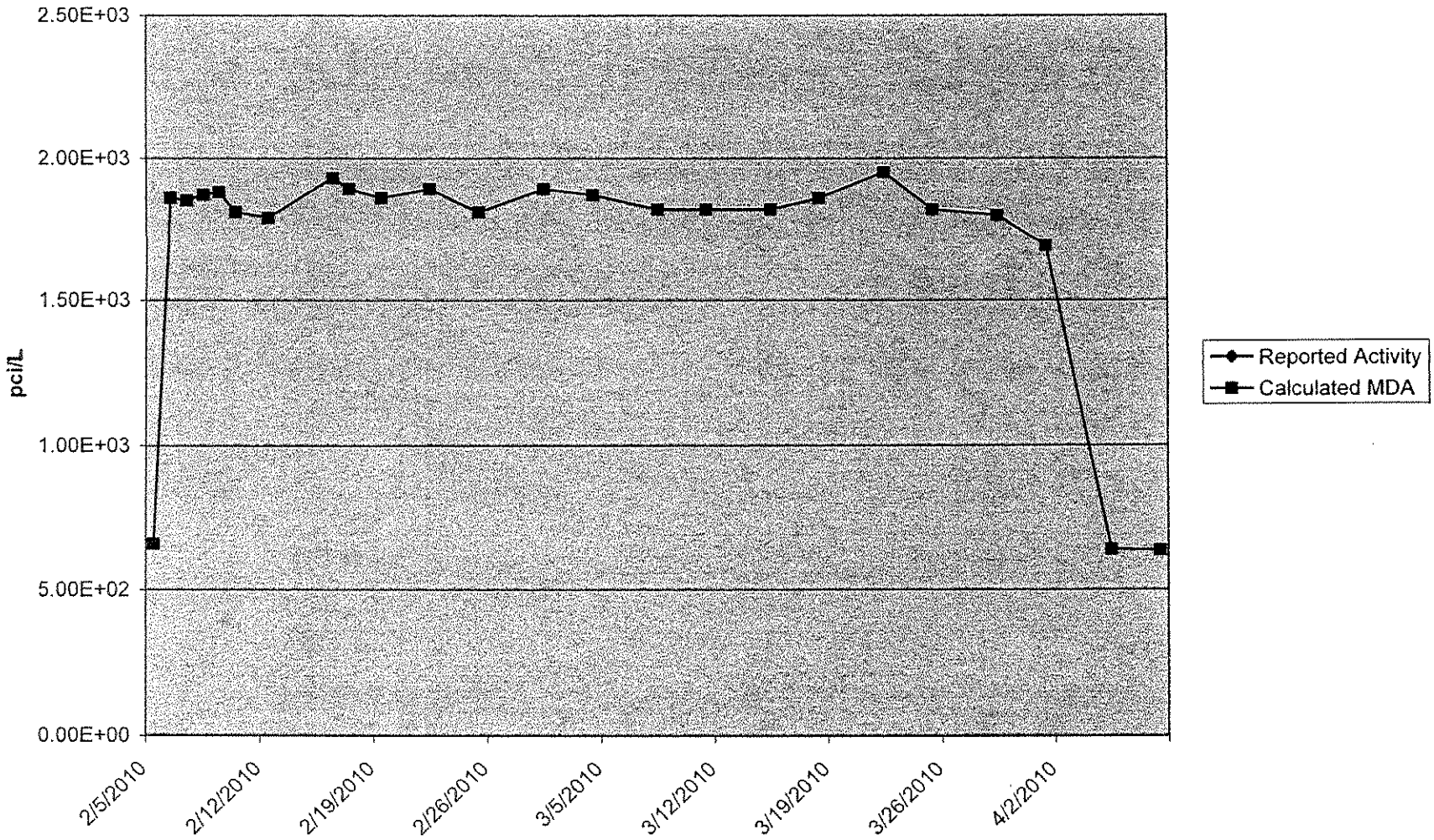

GZ-10 Tritium Concentration
3.00E+06
2.50E+06
2.00E+06
1.50E+06
1.00E+06
5.00E+05
0.00E+00
pCi/L
1/28/2010
2/4/2010
2/11/2010
2/18/2010
2/25/2010
3/4/2010
3/11/2010
3/18/2010
3/25/2010
4/1/2010
4/8/2010
Reported Activity
Calculated MDA


GZ-11 Tritium Concentration
2.50E+03
2.00E+03
1.50E+03
1.00E+03
5.00E+02
0.00E+00
pci/L
2/4/2010
2/11/2010
2/18/2010
2/25/2010
3/4/2010
3/11/2010
3/18/2010
3/25/2010
4/1/2010
4/8/2010
Reported Activity
Calculated MDA

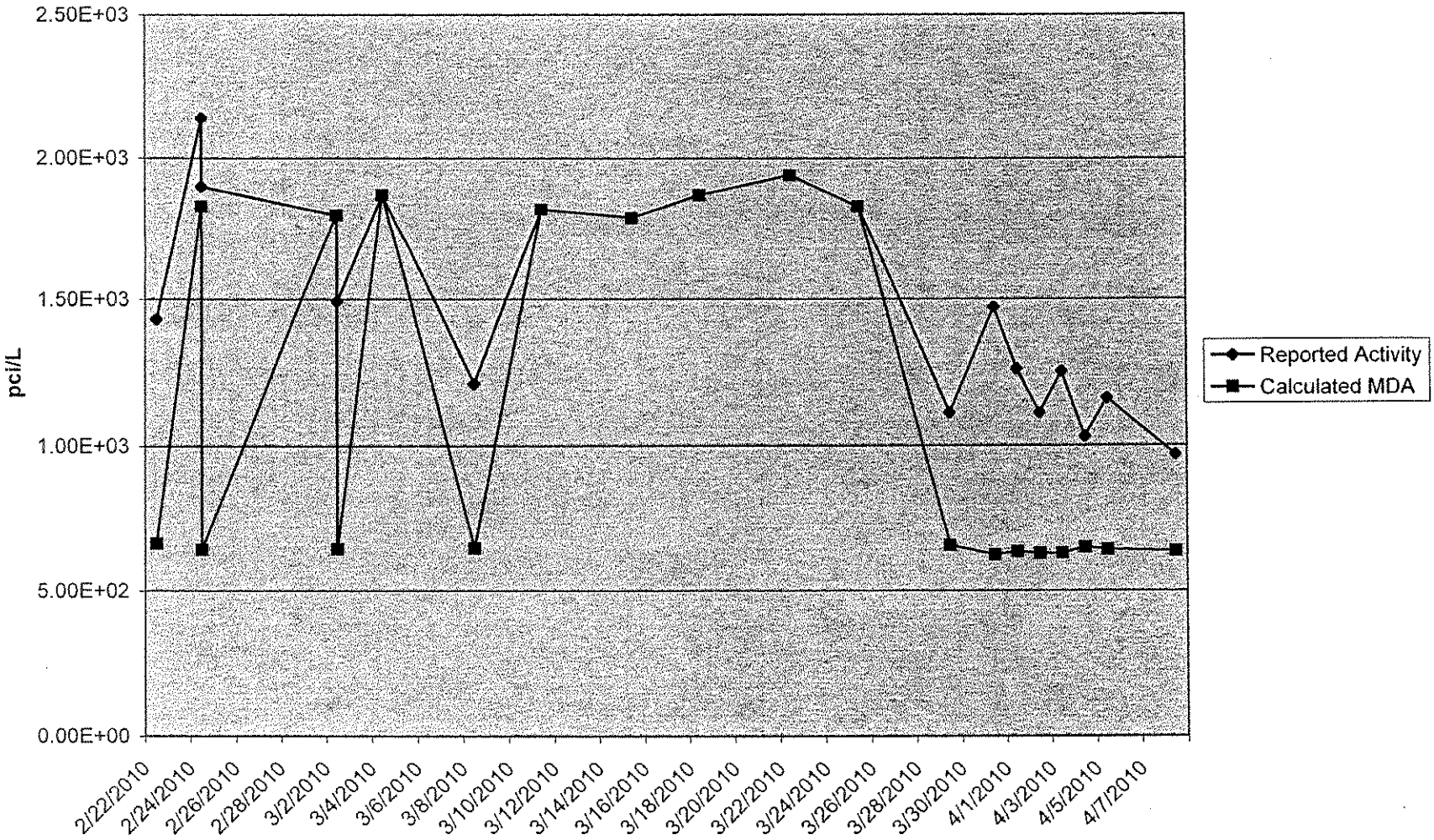
GZ-12 Tritium Concentration

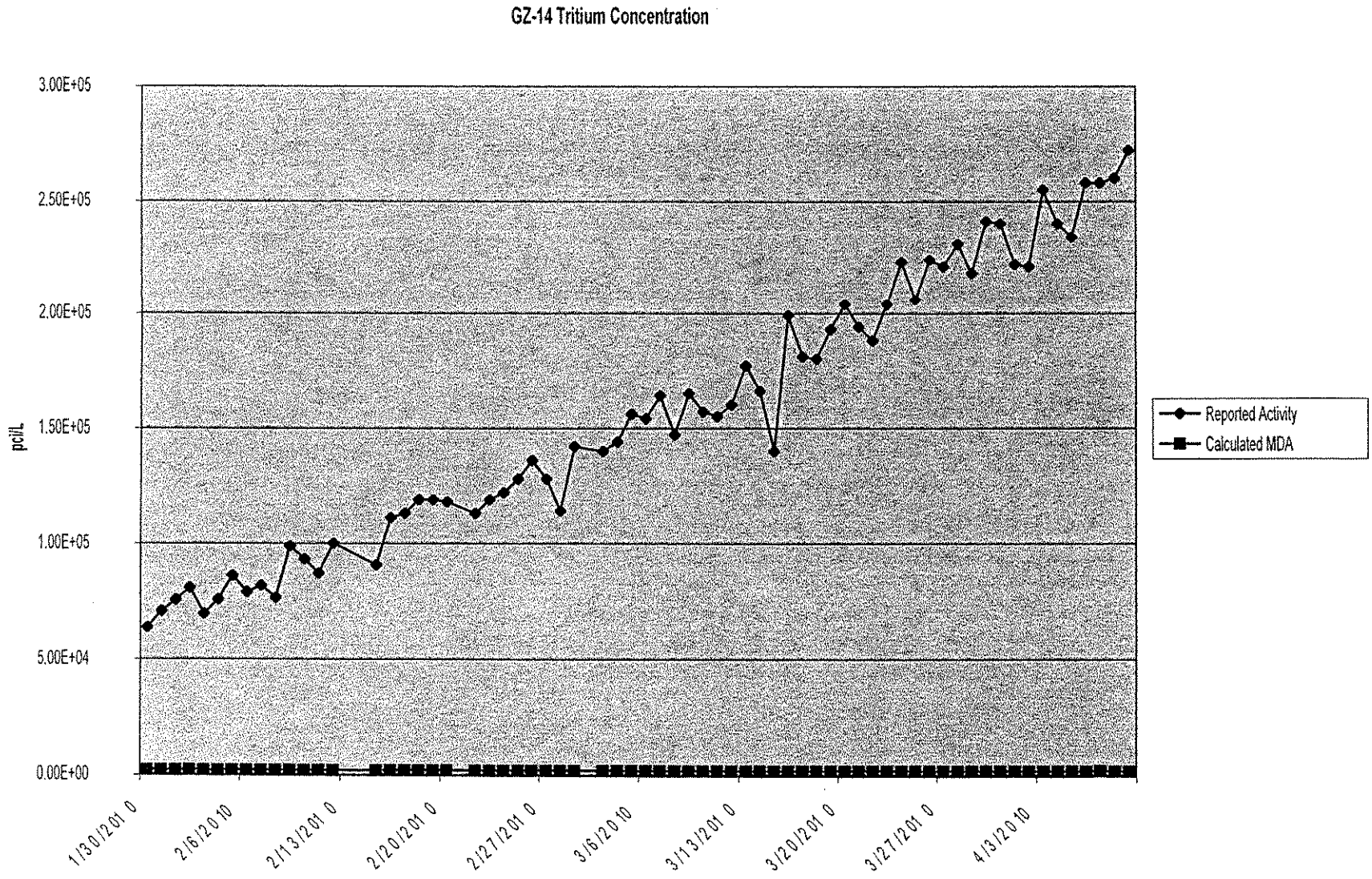


GZ-13 Tritium Concentration

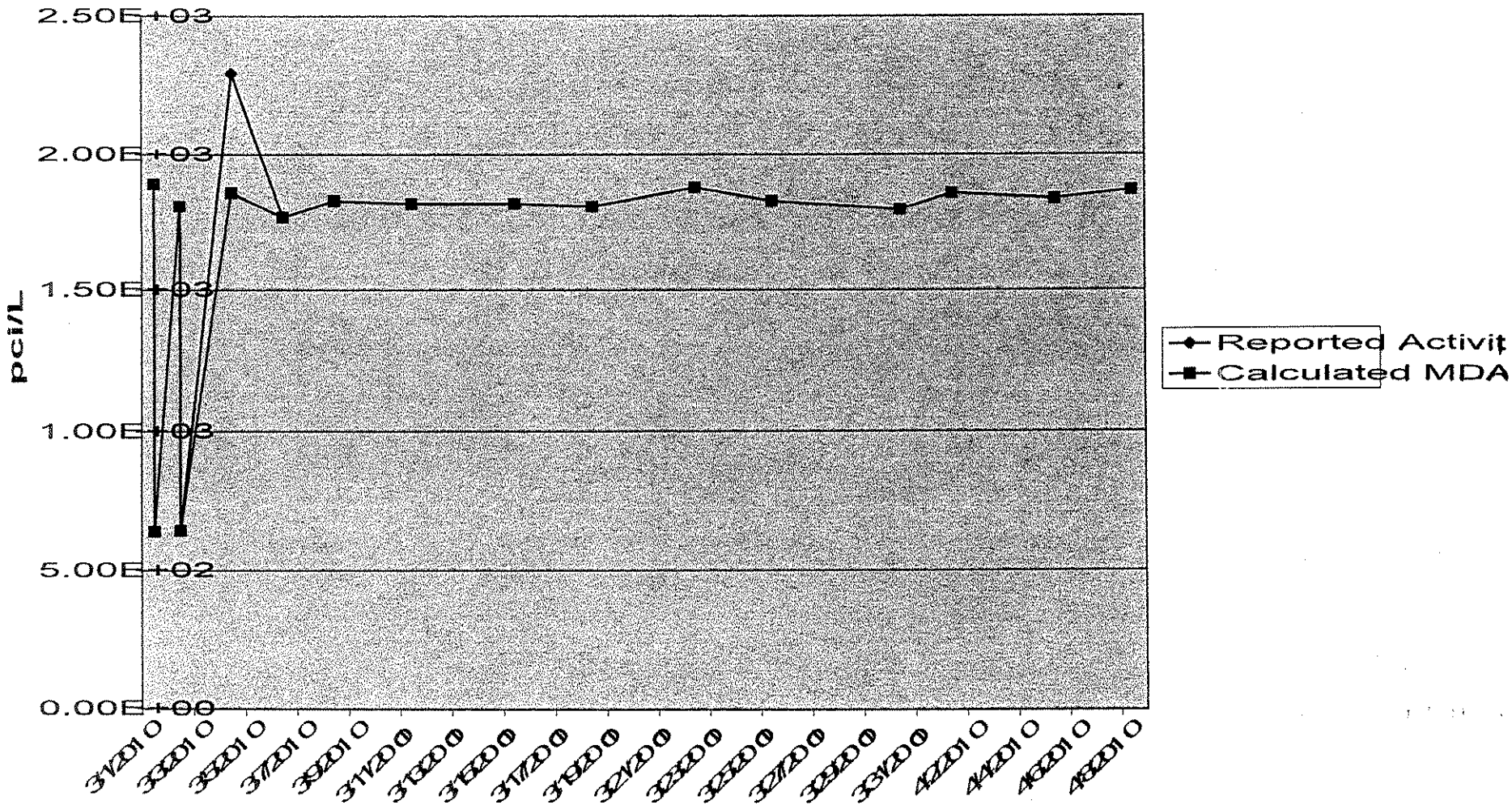


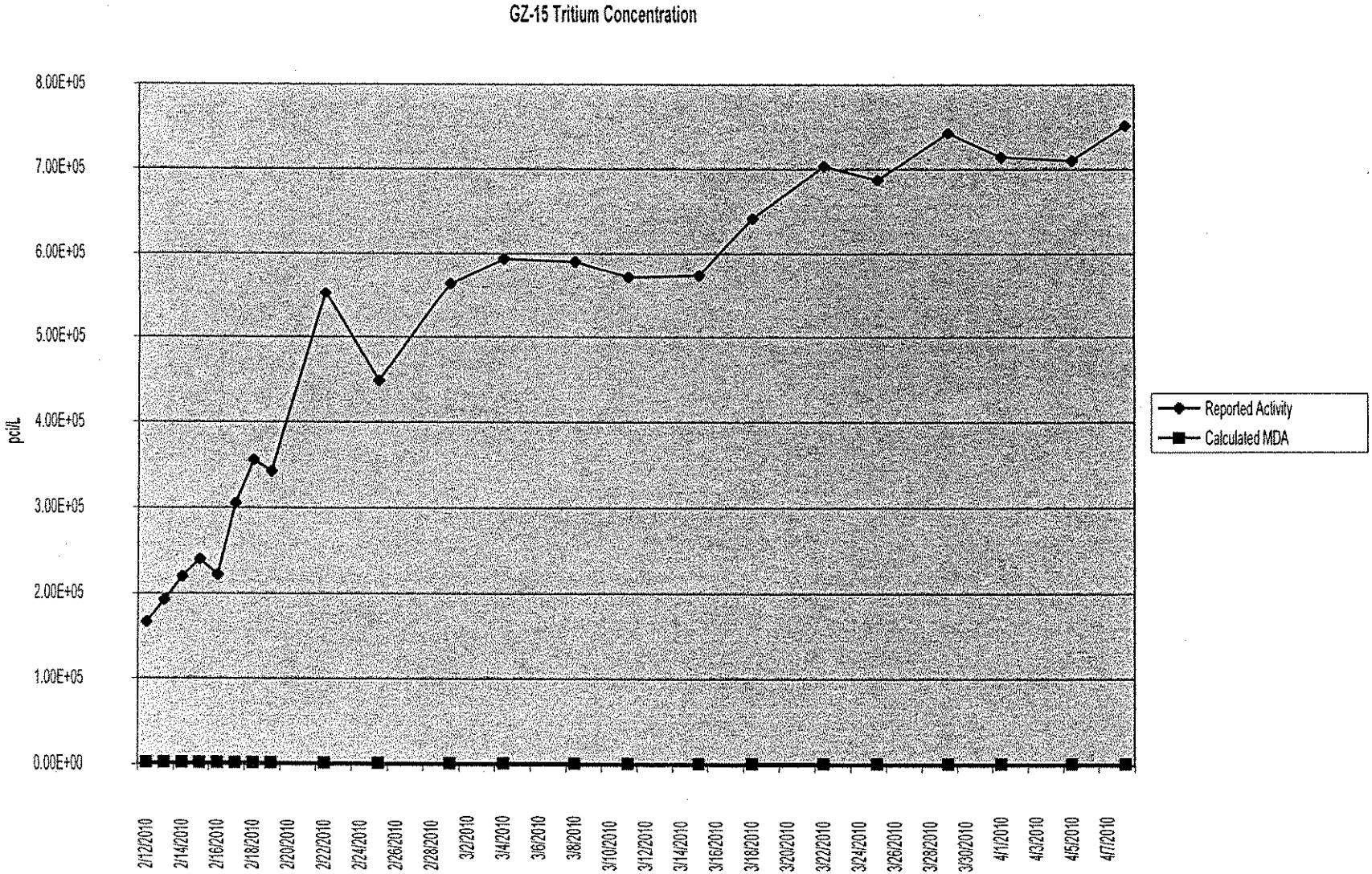
GZ-13D Tritium Concentration



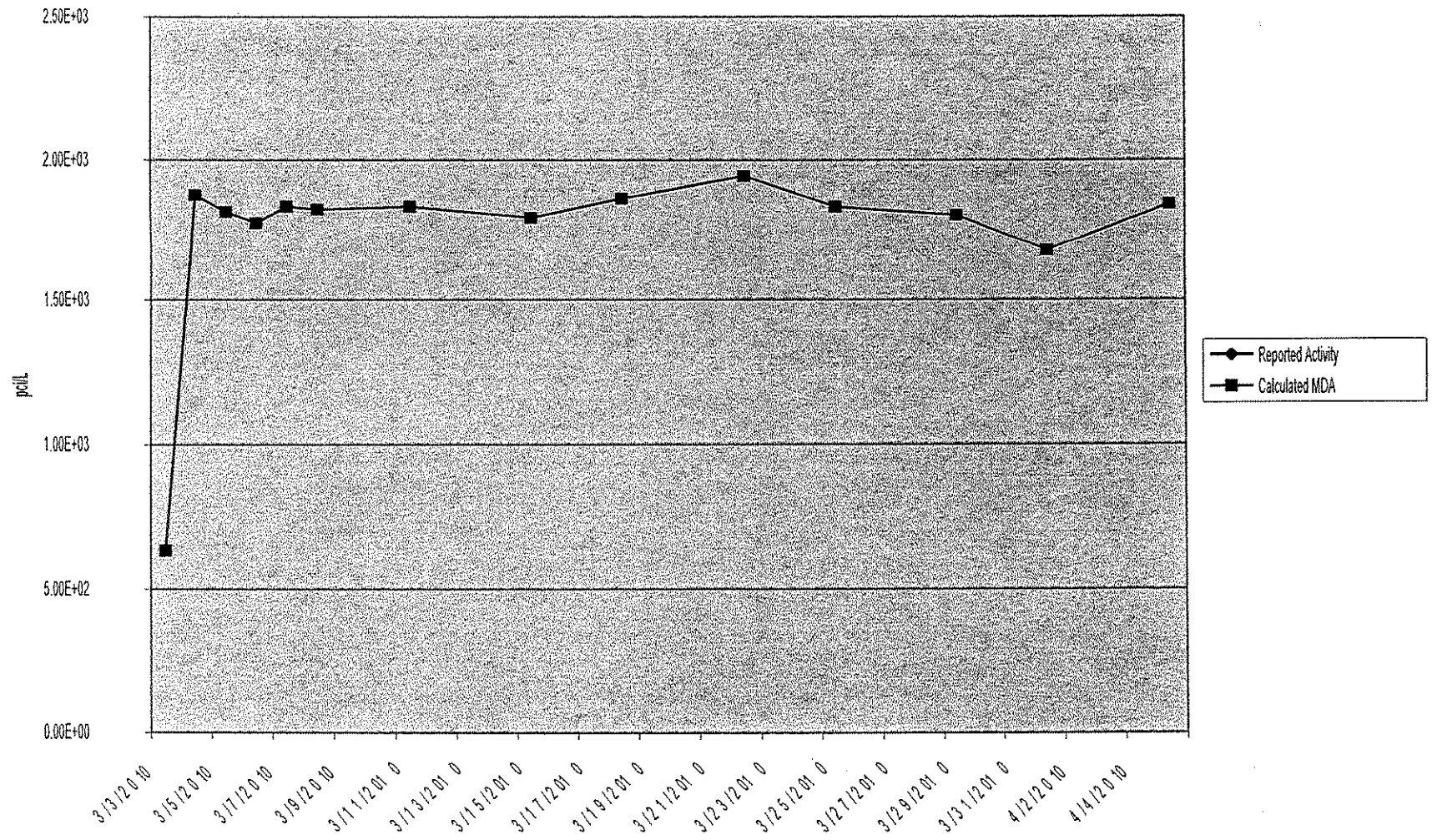

GZ-14 Tritium Concentration
3.00E+05
2.50E+05
2.00E+05
1.50E+05
1.00E+05
5.00E+04
0.00E+00
pCi/L
1/30/2010
2/6/2010
2/13/2010
2/20/2010
2/27/2010
3/6/2010
3/13/2010
3/20/2010
3/27/2010
4/3/2010
Reported Activity
Calculated MDA

GZ-14D Tritium Concentration

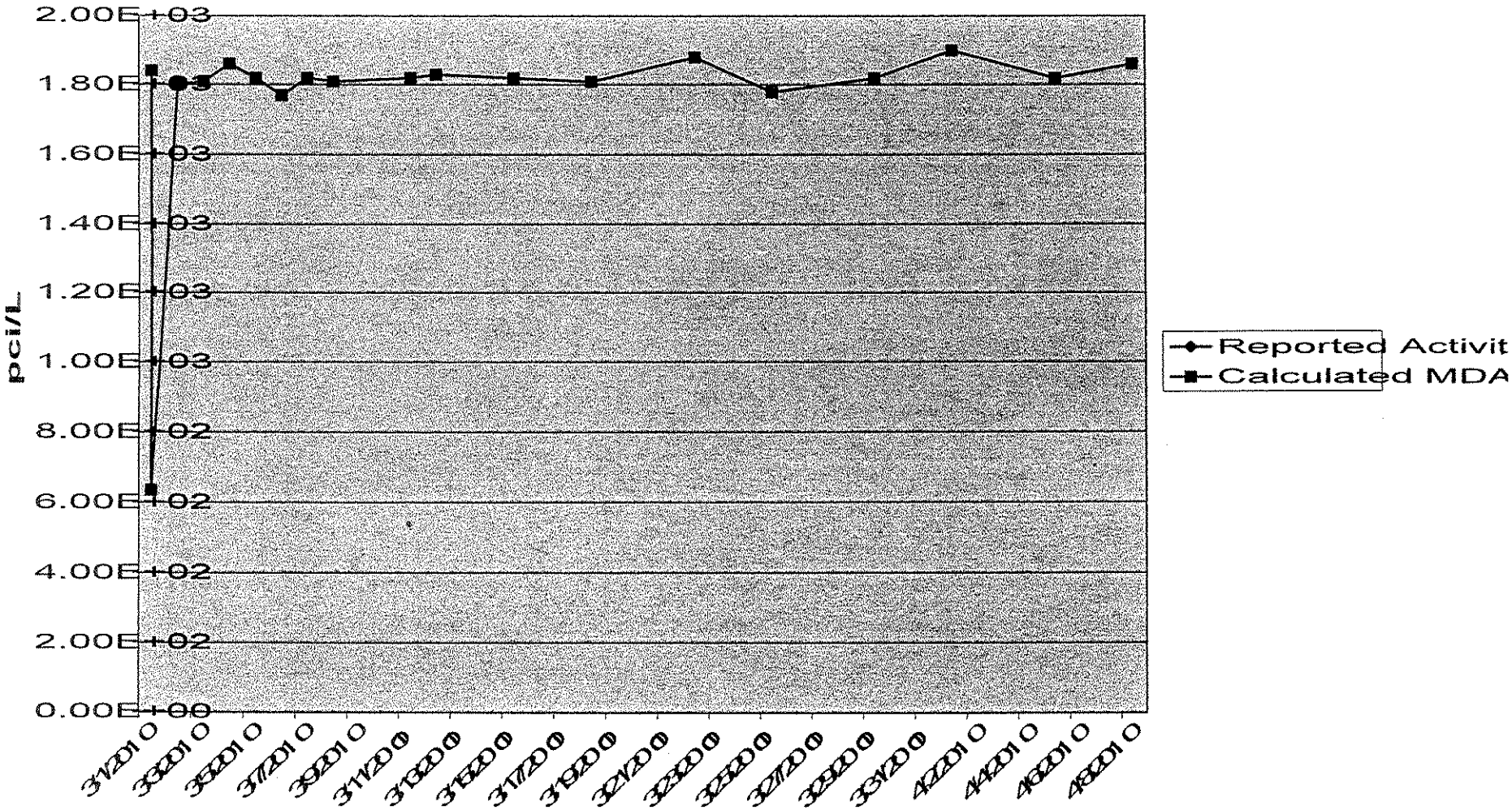


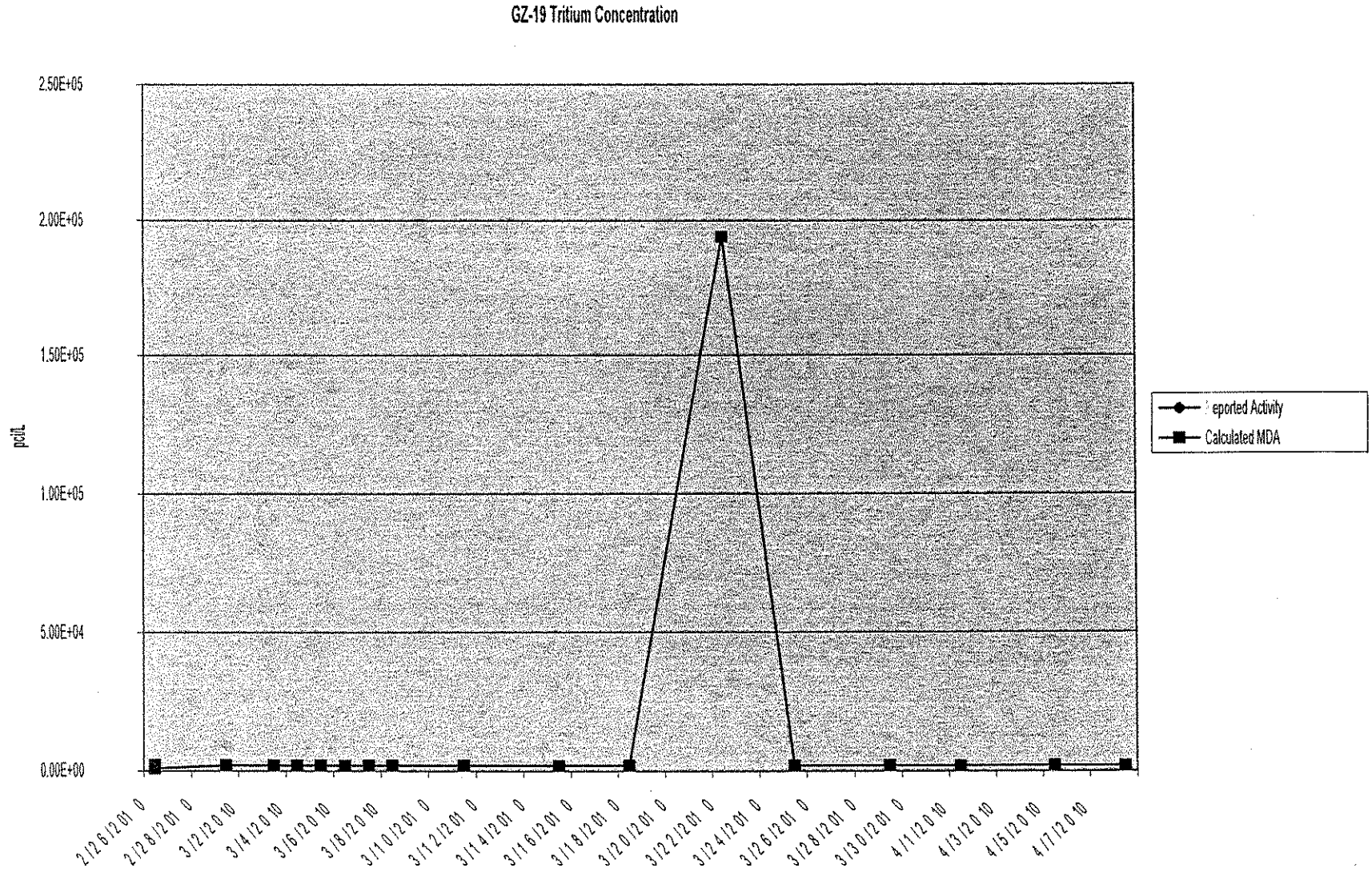

GZ-15 Tritium Concentration
8.00E+05
7.00E+05
6.00E+05
5.00E+05
4.00E+05
3.00E+05
2.00E+05
1.00E+05
0.00E+00
pCi/L
2/12/2010
2/14/2010
2/16/2010
2/18/2010
2/20/2010
2/22/2010
2/24/2010
2/26/2010
2/28/2010
3/2/2010
3/4/2010
3/6/2010
3/8/2010
3/10/2010
3/12/2010
3/14/2010
3/16/2010
3/18/2010
3/20/2010
3/22/2010
3/24/2010
3/26/2010
3/28/2010
3/30/2010
4/1/2010
4/3/2010
4/5/2010
4/7/2010
Reported Activity
Calculated MDA

GZ-16 Tritium Concentration

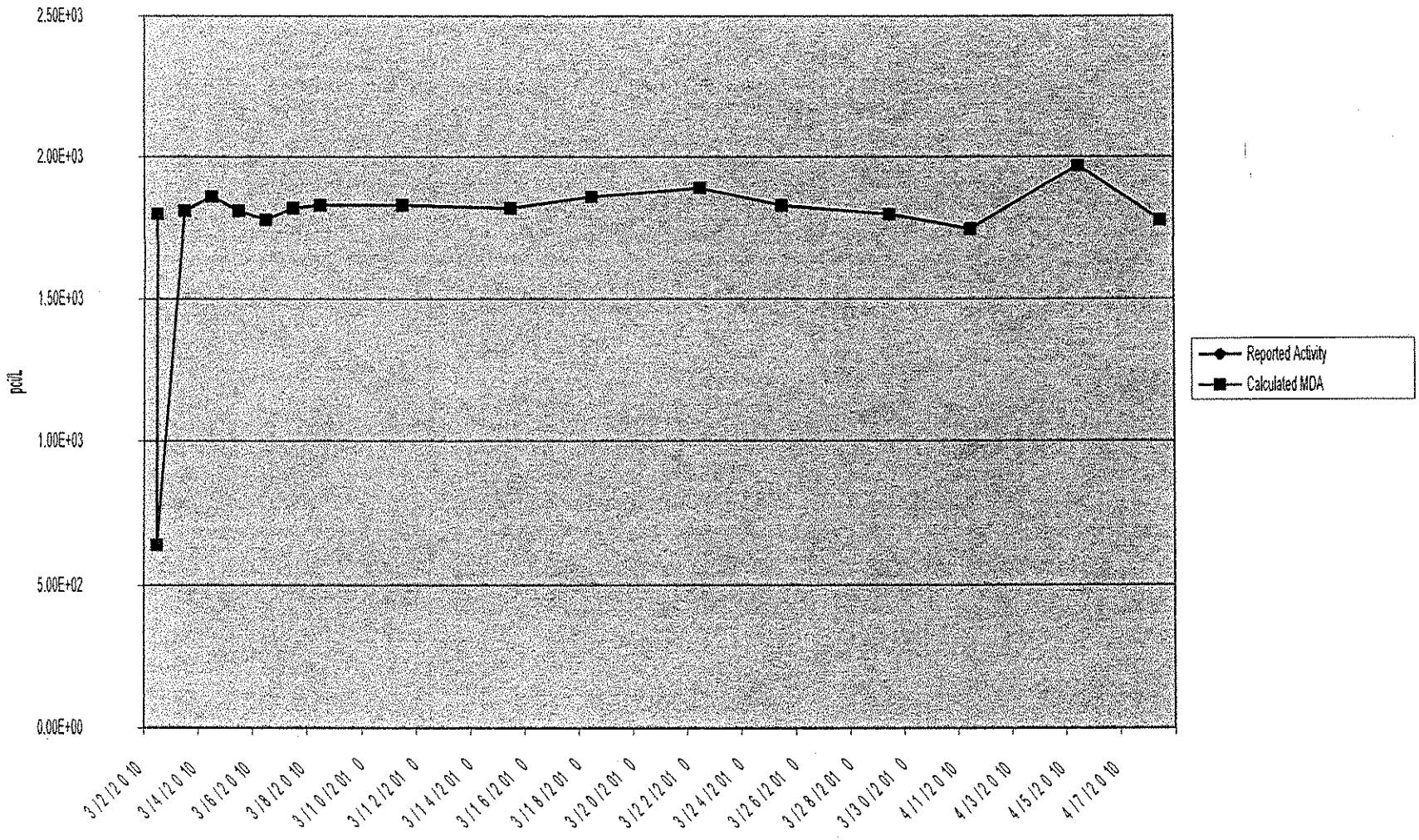


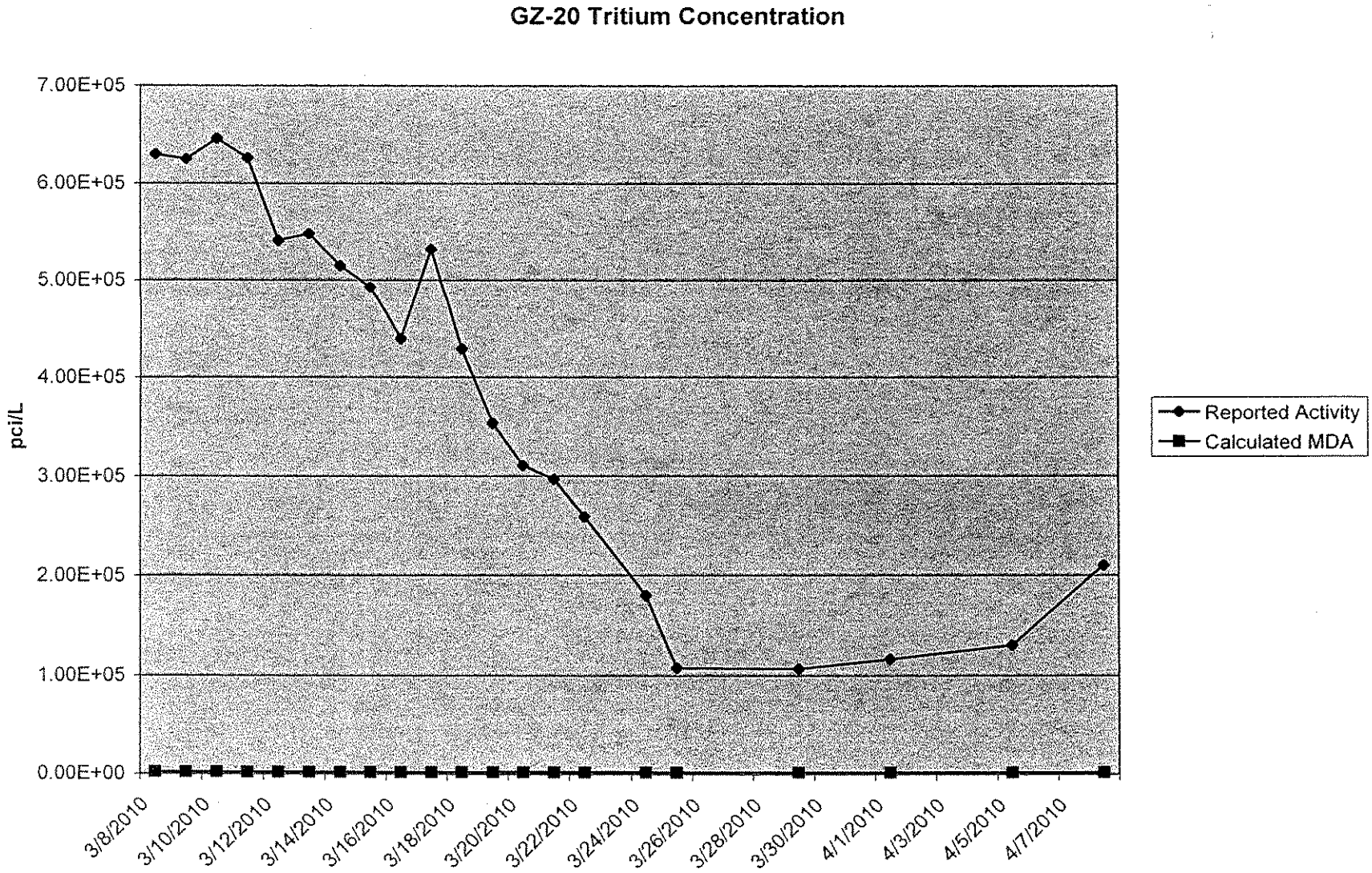
GZ-17 Tritium Concentration



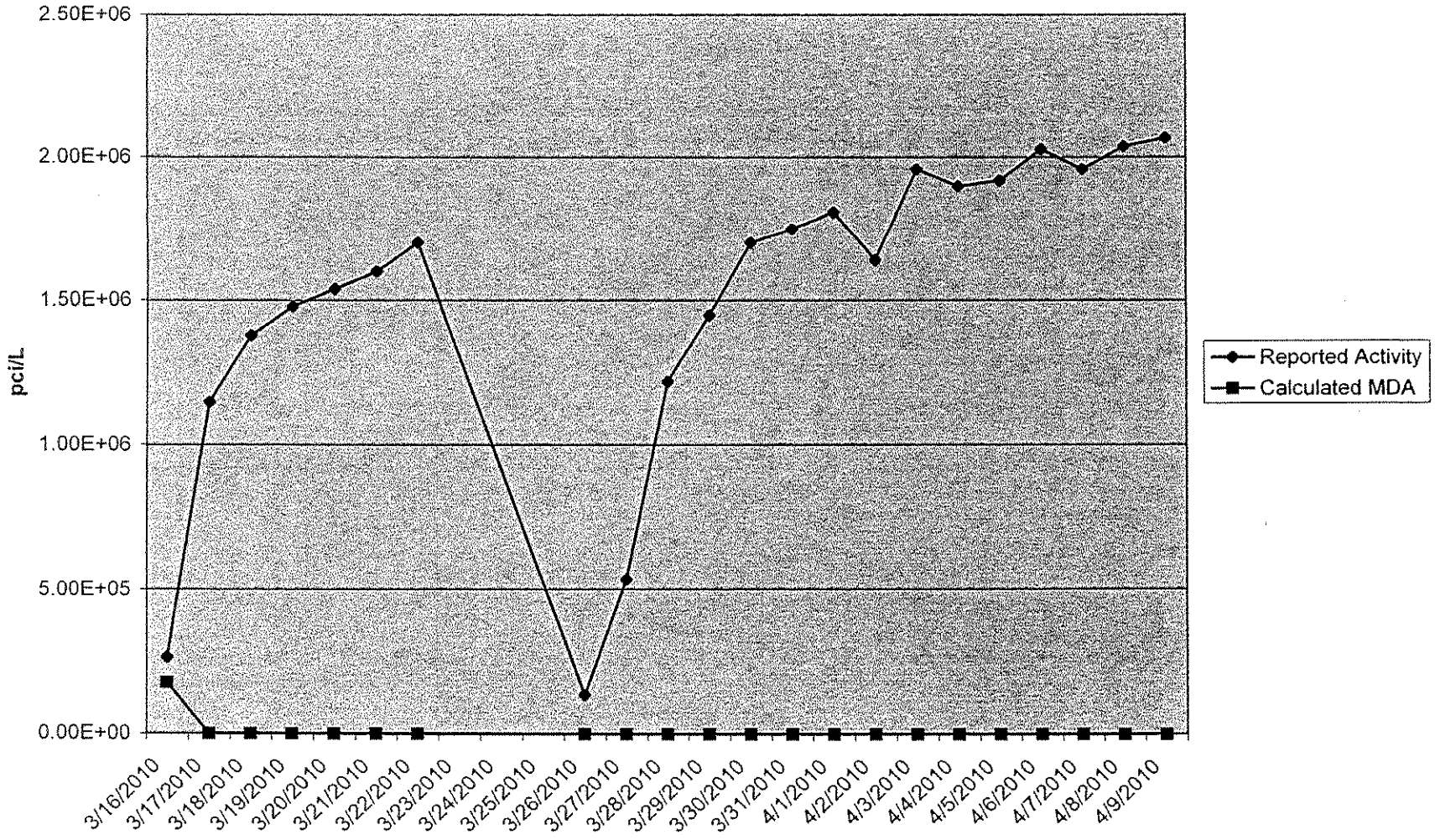

GZ-19 Tritium Concentration
2.50E+05
2.00E+05
1.50E+05
1.00E+05
5.00E+04
0.00E+00
pCi/L
eported Activity
Calculated MDA
2/26/2010
2/28/2010
3/2/2010
3/4/2010
3/6/2010
3/8/2010
3/10/2010
3/12/2010
3/14/2010
3/16/2010
3/18/2010
3/20/2010
3/22/2010
3/24/2010
3/26/2010
3/28/2010
3/30/2010
4/1/2010
4/3/2010
4/5/2010
4/7/2010

GZ-19D Tritium Concentration




GZ-20 Tritium Concentration
7.00E+05
6.00E+05
5.00E+05
4.00E+05
3.00E+05
2.00E+05
1.00E+05
0.00E+00
pci/L
3/8/2010
3/10/2010
3/12/2010
3/14/2010
3/16/2010
3/18/2010
3/20/2010
3/22/2010
3/24/2010
3/26/2010
3/28/2010
3/30/2010
4/1/2010
4/3/2010
4/5/2010
4/7/2010
Reported Activity
Calculated MDA

GZ-21 Tritium Concentration



Date	Time	System	uci/mL Calculated MDA	uci/mL Reported Activity	pci/L Calculated MDA	pci/L Reported Activity
1/7/2010	7:00:00 AM	GZ-1: Groundwater Well	7.36E-07	7.36E-07	7.36E+02	7.36E+02
1/7/2010	7:01:00 AM	GZ-1: Groundwater Well	2.11E-06	2.11E-06	2.11E+03	2.11E+03
1/11/2010	11:43:00 AM	GZ-1: Groundwater Well	7.19E-07	7.19E-07	7.19E+02	7.19E+02
1/14/2010	3:00:00 PM	GZ-1: Groundwater Well	4.00E-07	4.00E-07	4.00E+02	4.00E+02
1/18/2010	10:58:00 AM	GZ-1: Groundwater Well	7.17E-07	9.54E-06	7.17E+02	9.54E+03
1/18/2010	10:59:00 AM	GZ-1: Groundwater Well	7.66E-07	4.96E-06	7.66E+02	4.96E+03
1/18/2010	11:00:00 AM	GZ-1: Groundwater Well	1.96E-06	1.96E-06	1.96E+03	1.96E+03
1/18/2010	11:01:00 AM	GZ-1: Groundwater Well	6.65E-07	6.65E-07	6.65E+02	6.65E+02
1/19/2010	8:59:00 AM	GZ-1: Groundwater Well	1.96E-06	1.96E-06	1.96E+03	1.96E+03
1/19/2010	9:00:00 AM	GZ-1: Groundwater Well	6.65E-07	6.65E-07	6.65E+02	6.65E+02
1/20/2010	10:49:00 AM	GZ-1: Groundwater Well	6.51E-07	6.51E-07	6.51E+02	6.51E+02
1/21/2010	10:14:00 AM	GZ-1: Groundwater Well	6.54E-07	6.54E-07	6.54E+02	6.54E+02
1/22/2010	10:12:00 AM	GZ-1: Groundwater Well	6.60E-07	6.60E-07	6.60E+02	6.60E+02
1/23/2010	12:53:00 PM	GZ-1: Groundwater Well	6.57E-07	6.57E-07	6.57E+02	6.57E+02
1/24/2010	11:41:00 AM	GZ-1: Groundwater Well	6.62E-07	6.62E-07	6.62E+02	6.62E+02
1/25/2010	12:24:00 PM	GZ-1: Groundwater Well	6.60E-07	6.60E-07	6.60E+02	6.60E+02
1/26/2010	11:52:00 AM	GZ-1: Groundwater Well	6.52E-07	6.52E-07	6.52E+02	6.52E+02
1/27/2010	11:39:00 AM	GZ-1: Groundwater Well	6.61E-07	6.61E-07	6.61E+02	6.61E+02
1/28/2010	12:36:00 PM	GZ-1: Groundwater Well	6.24E-07	6.24E-07	6.24E+02	6.24E+02
1/29/2010	11:16:00 AM	GZ-1: Groundwater Well	6.38E-07	6.38E-07	6.38E+02	6.38E+02
1/30/2010	4:08:00 PM	GZ-1: Groundwater Well	6.53E-07	6.53E-07	6.53E+02	6.53E+02
1/31/2010	12:57:00 PM	GZ-1: Groundwater Well	6.42E-07	6.42E-07	6.42E+02	6.42E+02
2/1/2010	12:57:00 PM	GZ-1: Groundwater Well	6.39E-07	6.39E-07	6.39E+02	6.39E+02
2/4/2010	12:43:00 PM	GZ-1: Groundwater Well	1.82E-06	1.82E-06	1.82E+03	1.82E+03
2/8/2010	1:11:00 PM	GZ-1: Groundwater Well	1.80E-06	1.80E-06	1.80E+03	1.80E+03
2/12/2010	9:54:00 AM	GZ-1: Groundwater Well	1.84E-06	1.84E-06	1.84E+03	1.84E+03
2/16/2010	12:45:00 PM	GZ-1: Groundwater Well	1.87E-06	1.87E-06	1.87E+03	1.87E+03
3/22/2010	1:08:00 PM	GZ-1: Groundwater Well	6.39E-07	6.39E-07	6.39E+02	6.39E+02
2/2/2010	3:50:00 PM	GZ-2	6.58E-07	6.58E-07	6.58E+02	6.58E+02
2/3/2010	11:27:00 AM	GZ-2	1.86E-06	1.86E-06	1.86E+03	1.86E+03
2/3/2010	12:26:00 PM	GZ-2	6.59E-07	6.59E-07	6.59E+02	6.59E+02
2/4/2010	11:45:00 AM	GZ-2	1.82E-06	1.82E-06	1.82E+03	1.82E+03
2/8/2010	1:24:00 PM	GZ-2	1.80E-06	1.80E-06	1.80E+03	1.80E+03
2/12/2010	11:09:00 AM	GZ-2	1.84E-06	1.84E-06	1.84E+03	1.84E+03
2/16/2010	10:41:00 AM	GZ-2	1.93E-06	1.93E-06	1.93E+03	1.93E+03
3/22/2010	4:46:00 PM	GZ-2	1.79E-06	1.79E-06	1.79E+03	1.79E+03
4/5/2010	2:03:00 PM	GZ-2	1.84E-06	1.84E-06	1.84E+03	1.84E+03

1/6/2010	1:00:00 AM	GZ-3: Groundwater Well	7.42E-07	1.68E-05	7.42E+02	1.68E+04
1/6/2010	1:01:00 AM	GZ-3: Groundwater Well	7.37E-07	1.71E-05	7.37E+02	1.71E+04
1/6/2010	1:02:00 AM	GZ-3: Groundwater Well	7.36E-07	1.67E-05	7.36E+02	1.67E+04
1/7/2010	7:00:00 AM	GZ-3: Groundwater Well	1.91E-06	1.40E-05	1.91E+03	1.40E+04
1/8/2010	7:00:00 AM	GZ-3: Groundwater Well	7.26E-07	1.43E-05	7.26E+02	1.43E+04
1/11/2010	4:07:00 PM	GZ-3: Groundwater Well	7.13E-07	2.09E-05	7.13E+02	2.09E+04
1/14/2010	2:09:00 PM	GZ-3: Groundwater Well	1.95E-06	1.98E-05	1.95E+03	1.98E+04
1/18/2010	11:09:00 AM	GZ-3: Groundwater Well	2.01E-06	2.23E-05	2.01E+03	2.23E+04
1/18/2010	11:10:00 AM	GZ-3: Groundwater Well	6.64E-07	1.95E-05	6.64E+02	1.95E+04
1/20/2010	9:12:00 AM	GZ-3: Groundwater Well	1.82E-06	2.81E-05	1.82E+03	2.81E+04
1/20/2010	9:13:00 AM	GZ-3: Groundwater Well	1.87E-06	2.59E-05	1.87E+03	2.59E+04
1/20/2010	9:14:00 AM	GZ-3: Groundwater Well	1.89E-06	2.56E-05	1.89E+03	2.56E+04
1/21/2010	10:13:00 AM	GZ-3: Groundwater Well	1.88E-06	2.09E-05	1.88E+03	2.09E+04
1/21/2010	10:14:00 AM	GZ-3: Groundwater Well	1.89E-06	2.08E-05	1.89E+03	2.08E+04
1/21/2010	10:15:00 AM	GZ-3: Groundwater Well	2.48E-06	2.21E-05	2.48E+03	2.21E+04
1/22/2010	8:11:00 AM	GZ-3: Groundwater Well	1.87E-06	2.20E-05	1.87E+03	2.20E+04
1/23/2010	11:51:00 AM	GZ-3: Groundwater Well	1.80E-06	2.49E-05	1.80E+03	2.49E+04
1/24/2010	10:34:00 AM	GZ-3: Groundwater Well	1.83E-06	2.76E-05	1.83E+03	2.76E+04
1/25/2010	11:06:00 AM	GZ-3: Groundwater Well	1.90E-06	2.30E-05	1.90E+03	2.30E+04
1/26/2010	9:21:00 AM	GZ-3: Groundwater Well	1.86E-06	2.49E-05	1.86E+03	2.49E+04
1/27/2010	9:00:00 AM	GZ-3: Groundwater Well	1.88E-06	2.89E-05	1.88E+03	2.89E+04
1/28/2010	10:48:00 AM	GZ-3: Groundwater Well	1.82E-06	1.84E-05	1.82E+03	1.84E+04
1/29/2010	9:39:00 AM	GZ-3: Groundwater Well	1.86E-06	2.39E-05	1.86E+03	2.39E+04
1/30/2010	11:29:00 AM	GZ-3: Groundwater Well	1.87E-06	3.20E-05	1.87E+03	3.20E+04
1/31/2010	11:03:00 AM	GZ-3: Groundwater Well	1.92E-06	2.84E-05	1.92E+03	2.84E+04
2/1/2010	11:15:00 AM	GZ-3: Groundwater Well	1.80E-06	2.47E-05	1.80E+03	2.47E+04
2/2/2010	10:23:00 AM	GZ-3: Groundwater Well	1.98E-06	3.21E-05	1.98E+03	3.21E+04
2/3/2010	8:48:00 AM	GZ-3: Groundwater Well	1.87E-06	3.63E-05	1.87E+03	3.63E+04
2/4/2010	10:16:00 AM	GZ-3: Groundwater Well	1.81E-06	3.23E-05	1.81E+03	3.23E+04
2/5/2010	10:16:00 AM	GZ-3: Groundwater Well	1.86E-06	3.48E-05	1.86E+03	3.48E+04
2/6/2010	9:45:00 AM	GZ-3: Groundwater Well	1.88E-06	4.00E-05	1.88E+03	4.00E+04
2/7/2010	8:50:00 AM	GZ-3: Groundwater Well	1.87E-06	3.92E-05	1.87E+03	3.92E+04
2/8/2010	9:20:00 AM	GZ-3: Groundwater Well	1.80E-06	3.94E-05	1.80E+03	3.94E+04
2/9/2010	9:14:00 AM	GZ-3: Groundwater Well	1.87E-06	3.84E-05	1.87E+03	3.84E+04
2/10/2010	9:22:00 AM	GZ-3: Groundwater Well	1.80E-06	2.86E-05	1.80E+03	2.86E+04
2/12/2010	8:31:00 AM	GZ-3: Groundwater Well	1.83E-06	2.76E-05	1.83E+03	2.76E+04
2/16/2010	8:42:00 AM	GZ-3: Groundwater Well	1.88E-06	3.12E-05	1.88E+03	3.12E+04
2/17/2010	8:32:00 AM	GZ-3: Groundwater Well	1.89E-06	3.02E-05	1.89E+03	3.02E+04
2/19/2010	8:37:00 AM	GZ-3: Groundwater Well	1.86E-06	3.61E-05	1.86E+03	3.61E+04
2/22/2010	8:31:00 AM	GZ-3: Groundwater Well	1.88E-06	4.16E-05	1.88E+03	4.16E+04
2/25/2010	11:06:00 AM	GZ-3: Groundwater Well	1.86E-06	4.46E-05	1.86E+03	4.46E+04
3/1/2010	9:01:00 AM	GZ-3: Groundwater Well	1.90E-06	4.89E-05	1.90E+03	4.89E+04
3/4/2010	8:42:00 AM	GZ-3: Groundwater Well	2.05E-06	5.20E-05	2.05E+03	5.20E+04

3/8/2010	11:49:00 AM	GZ-3: Groundwater Well	1.82E-06	4.61E-05	1.82E+03	4.61E+04
3/11/2010	7:50:00 AM	GZ-3: Groundwater Well	1.82E-06	3.44E-05	1.82E+03	3.44E+04
3/15/2010	10:09:00 AM	GZ-3: Groundwater Well	1.82E-06	5.08E-05	1.82E+03	5.08E+04
3/18/2010	7:56:00 AM	GZ-3: Groundwater Well	1.81E-06	3.85E-05	1.81E+03	3.85E+04
3/22/2010	9:19:00 AM	GZ-3: Groundwater Well	1.88E-06	5.15E-05	1.88E+03	5.15E+04
3/25/2010	9:06:00 AM	GZ-3: Groundwater Well	1.79E-06	4.52E-05	1.79E+03	4.52E+04
3/29/2010	9:25:00 AM	GZ-3: Groundwater Well	1.82E-06	5.21E-05	1.82E+03	5.21E+04
4/1/2010	9:13:00 AM	GZ-3: Groundwater Well	1.89E-06	5.78E-05	1.89E+03	5.78E+04
4/5/2010	8:55:00 AM	GZ-3: Groundwater Well	1.82E-06	5.20E-05	1.82E+03	5.20E+04
4/8/2010	9:21:00 AM	GZ-3: Groundwater Well	1.86E-06	6.12E-05	1.86E+03	6.12E+04
1/30/2010	3:30:00 PM	GZ-4	1.94E-06	1.94E-06	1.94E+03	1.94E+03
1/30/2010	3:31:00 PM	GZ-4	6.53E-07	1.49E-06	6.53E+02	1.49E+03
1/31/2010	10:20:00 AM	GZ-4	6.54E-07	1.84E-06	6.54E+02	1.84E+03
2/1/2010	10:27:00 AM	GZ-4	1.80E-06	1.80E-06	1.80E+03	1.80E+03
2/1/2010	10:28:00 AM	GZ-4	6.39E-07	2.26E-06	6.39E+02	2.26E+03
2/2/2010	9:40:00 AM	GZ-4	6.60E-07	1.98E-06	6.60E+02	1.98E+03
2/4/2010	9:53:00 AM	GZ-4	6.51E-07	1.94E-06	6.51E+02	1.94E+03
2/4/2010	10:33:00 AM	GZ-4	6.65E-07	1.92E-06	6.65E+02	1.92E+03
2/5/2010	10:40:00 AM	GZ-4	1.88E-06	1.92E-06	1.88E+03	1.92E+03
2/6/2010	9:29:00 AM	GZ-4	6.35E-07	3.20E-06	6.35E+02	3.20E+03
2/7/2010	8:03:00 AM	GZ-4	6.52E-07	2.56E-06	6.52E+02	2.56E+03
2/8/2010	10:00:00 AM	GZ-4	6.56E-07	2.77E-06	6.56E+02	2.77E+03
2/9/2010	8:45:00 AM	GZ-4	6.55E-07	2.79E-06	6.55E+02	2.79E+03
2/10/2010	8:52:00 AM	GZ-4	6.39E-07	2.45E-06	6.39E+02	2.45E+03
2/12/2010	8:54:00 AM	GZ-4	6.58E-07	2.38E-06	6.58E+02	2.38E+03
2/16/2010	10:46:00 AM	GZ-4	6.56E-07	2.78E-06	6.56E+02	2.78E+03
2/17/2010	9:02:00 AM	GZ-4	6.54E-07	2.71E-06	6.54E+02	2.71E+03
2/19/2010	8:53:00 AM	GZ-4	6.63E-07	2.66E-06	6.63E+02	2.66E+03
2/22/2010	9:38:00 AM	GZ-4	7.19E-07	2.11E-06	7.19E+02	2.11E+03
2/25/2010	8:22:00 AM	GZ-4	6.48E-07	4.42E-06	6.48E+02	4.42E+03
3/1/2010	9:39:00 AM	GZ-4	6.47E-07	1.97E-06	6.47E+02	1.97E+03
3/4/2010	8:32:00 AM	GZ-4	1.86E-06	2.81E-06	1.86E+03	2.81E+03
3/8/2010	9:40:00 AM	GZ-4	1.82E-06	3.14E-06	1.82E+03	3.14E+03
3/8/2010	9:41:00 AM	GZ-4	6.63E-07	2.12E-06	6.63E+02	2.12E+03
3/11/2010	9:30:00 AM	GZ-4	1.82E-06	2.21E-06	1.82E+03	2.21E+03
3/15/2010	9:38:00 AM	GZ-4	1.82E-06	2.22E-06	1.82E+03	2.22E+03
3/15/2010	9:39:00 AM	GZ-4	6.41E-07	6.41E-07	6.41E+02	6.41E+02
3/22/2010	9:45:00 AM	GZ-4	1.88E-06	3.45E-05	1.88E+03	3.45E+04
3/22/2010	9:46:00 AM	GZ-4	6.53E-07	2.78E-06	6.53E+02	2.78E+03
3/25/2010	9:52:00 AM	GZ-4	1.79E-06	7.89E-06	1.79E+03	7.89E+03
3/29/2010	9:45:00 AM	GZ-4	1.81E-06	2.11E-06	1.81E+03	2.11E+03

4/1/2010	9:26:00 AM GZ-4	1.89E-06	1.92E-06	1.89E+03	1.92E+03
4/5/2010	9:16:00 AM GZ-4	6.48E-07	2.45E-06	6.48E+02	2.45E+03
4/8/2010	9:39:00 AM GZ-4	6.28E-07	2.70E-06	6.28E+02	2.70E+03
1/7/2010	7:00:00 AM GZ-5: Groundwater Well	1.90E-06	1.90E-06	1.90E+03	1.90E+03
1/7/2010	7:01:00 AM GZ-5: Groundwater Well	7.36E-07	7.36E-07	7.36E+02	7.36E+02
1/8/2010	7:00:00 AM GZ-5: Groundwater Well	7.24E-07	7.24E-07	7.24E+02	7.24E+02
1/11/2010	3:39:00 PM GZ-5: Groundwater Well	7.23E-07	7.23E-07	7.23E+02	7.23E+02
1/14/2010	3:00:00 PM GZ-5: Groundwater Well	3.99E-07	3.99E-07	3.99E+02	3.99E+02
1/18/2010	11:59:00 AM GZ-5: Groundwater Well	7.15E-07	7.15E-07	7.15E+02	7.15E+02
1/20/2010	10:00:00 AM GZ-5: Groundwater Well	6.59E-07	6.59E-07	6.59E+02	6.59E+02
1/21/2010	11:01:00 AM GZ-5: Groundwater Well	6.46E-07	6.46E-07	6.46E+02	6.46E+02
1/22/2010	9:16:00 AM GZ-5: Groundwater Well	6.62E-07	6.62E-07	6.62E+02	6.62E+02
1/23/2010	10:55:00 AM GZ-5: Groundwater Well	6.59E-07	6.59E-07	6.59E+02	6.59E+02
1/24/2010	9:17:00 AM GZ-5: Groundwater Well	6.61E-07	6.61E-07	6.61E+02	6.61E+02
1/25/2010	9:54:00 AM GZ-5: Groundwater Well	6.62E-07	6.62E-07	6.62E+02	6.62E+02
1/26/2010	10:38:00 AM GZ-5: Groundwater Well	6.55E-07	6.55E-07	6.55E+02	6.55E+02
1/27/2010	10:47:00 AM GZ-5: Groundwater Well	6.61E-07	6.61E-07	6.61E+02	6.61E+02
1/28/2010	10:11:00 AM GZ-5: Groundwater Well	6.41E-07	6.41E-07	6.41E+02	6.41E+02
1/29/2010	10:35:00 AM GZ-5: Groundwater Well	6.86E-07	6.86E-07	6.86E+02	6.86E+02
1/30/2010	2:20:00 PM GZ-5: Groundwater Well	6.56E-07	6.56E-07	6.56E+02	6.56E+02
1/31/2010	10:00:00 AM GZ-5: Groundwater Well	6.42E-07	6.42E-07	6.42E+02	6.42E+02
2/1/2010	10:10:00 AM GZ-5: Groundwater Well	6.40E-07	6.40E-07	6.40E+02	6.40E+02
2/4/2010	10:56:00 AM GZ-5: Groundwater Well	1.81E-06	1.81E-06	1.81E+03	1.81E+03
2/8/2010	10:30:00 AM GZ-5: Groundwater Well	1.80E-06	1.80E-06	1.80E+03	1.80E+03
2/12/2010	9:10:00 AM GZ-5: Groundwater Well	1.81E-06	1.81E-06	1.81E+03	1.81E+03
2/16/2010	11:18:00 AM GZ-5: Groundwater Well	1.87E-06	1.87E-06	1.87E+03	1.87E+03
2/22/2010	10:21:00 AM GZ-5: Groundwater Well	1.88E-06	1.88E-06	1.88E+03	1.88E+03
3/1/2010	10:11:00 AM GZ-5: Groundwater Well	1.89E-06	1.89E-06	1.89E+03	1.89E+03
3/8/2010	11:14:00 AM GZ-5: Groundwater Well	1.85E-06	1.85E-06	1.85E+03	1.85E+03
3/15/2010	10:20:00 AM GZ-5: Groundwater Well	1.82E-06	1.82E-06	1.82E+03	1.82E+03
3/22/2010	10:06:00 AM GZ-5: Groundwater Well	1.89E-06	1.89E-06	1.89E+03	1.89E+03
3/30/2010	10:02:00 AM GZ-5: Groundwater Well	1.80E-06	1.80E-06	1.80E+03	1.80E+03
4/1/2010	9:48:00 AM GZ-5: Groundwater Well	1.89E-06	1.89E-06	1.89E+03	1.89E+03
4/5/2010	9:41:00 AM GZ-5: Groundwater Well	1.84E-06	1.84E-06	1.84E+03	1.84E+03
1/27/2010	3:00:00 PM GZ-6	1.88E-06	1.88E-06	1.88E+03	1.88E+03
1/27/2010	3:01:00 PM GZ-6	6.63E-07	6.63E-07	6.63E+02	6.63E+02
1/28/2010	2:00:00 PM GZ-6	6.42E-07	6.42E-07	6.42E+02	6.42E+02
1/29/2010	11:23:00 AM GZ-6	6.74E-07	6.74E-07	6.74E+02	6.74E+02
1/30/2010	12:45:00 PM GZ-6	6.59E-07	6.59E-07	6.59E+02	6.59E+02
1/31/2010	1:42:00 PM GZ-6	6.40E-07	6.40E-07	6.40E+02	6.40E+02

2/1/2010	1:37:00 PM GZ-6	6.61E-07	6.61E-07	6.61E+02	6.61E+02
2/4/2010	1:40:00 PM GZ-6	1.81E-06	1.81E-06	1.81E+03	1.81E+03
2/8/2010	2:31:00 PM GZ-6	1.87E-06	1.87E-06	1.87E+03	1.87E+03
2/12/2010	10:45:00 AM GZ-6	1.84E-06	1.84E-06	1.84E+03	1.84E+03
2/16/2010	10:22:00 AM GZ-6	1.93E-06	1.93E-06	1.93E+03	1.93E+03
2/19/2010	10:34:00 AM GZ-6	1.86E-06	1.86E-06	1.86E+03	1.86E+03
2/22/2010	10:37:00 AM GZ-6	1.88E-06	1.88E-06	1.88E+03	1.88E+03
3/1/2010	12:00:00 PM GZ-6	1.90E-06	1.90E-06	1.90E+03	1.90E+03
3/8/2010	1:13:00 PM GZ-6	1.85E-06	1.85E-06	1.85E+03	1.85E+03
3/15/2010	12:02:00 PM GZ-6	1.78E-06	1.78E-06	1.78E+03	1.78E+03
3/22/2010	3:35:00 PM GZ-6	1.95E-06	1.95E-06	1.95E+03	1.95E+03
3/29/2010	2:18:00 PM GZ-6	1.80E-06	1.80E-06	1.80E+03	1.80E+03
4/5/2010	1:25:00 PM GZ-6	1.97E-06	1.97E-06	1.97E+03	1.97E+03
2/3/2010	2:45:00 PM GZ-7	1.86E-06	7.37E-04	1.86E+03	7.37E+05
2/4/2010	8:40:00 AM GZ-7	1.81E-06	7.76E-04	1.81E+03	7.76E+05
2/5/2010	8:56:00 AM GZ-7	1.86E-06	8.34E-04	1.86E+03	8.34E+05
2/6/2010	7:22:00 AM GZ-7	1.86E-06	8.79E-04	1.86E+03	8.79E+05
2/7/2010	7:14:00 AM GZ-7	1.85E-06	8.91E-04	1.85E+03	8.91E+05
2/8/2010	10:19:00 AM GZ-7	1.81E-06	9.11E-04	1.81E+03	9.11E+05
2/9/2010	9:17:00 AM GZ-7	1.88E-06	9.20E-04	1.88E+03	9.20E+05
2/10/2010	8:35:00 AM GZ-7	1.80E-06	9.37E-04	1.80E+03	9.37E+05
2/11/2010	9:05:00 AM GZ-7	1.87E-06	9.48E-04	1.87E+03	9.48E+05
2/12/2010	8:36:00 AM GZ-7	1.84E-06	9.46E-04	1.84E+03	9.46E+05
2/15/2010	8:43:00 AM GZ-7	1.83E-06	9.49E-04	1.83E+03	9.49E+05
2/16/2010	8:15:00 AM GZ-7	1.93E-06	9.45E-04	1.93E+03	9.45E+05
2/17/2010	8:24:00 AM GZ-7	1.88E-06	9.91E-04	1.88E+03	9.91E+05
2/18/2010	7:58:00 AM GZ-7	1.93E-06	9.73E-04	1.93E+03	9.73E+05
2/19/2010	8:42:00 AM GZ-7	1.87E-06	1.00E-03	1.87E+03	1.00E+06
2/20/2010	8:39:00 AM GZ-7	1.85E-06	9.66E-04	1.85E+03	9.66E+05
2/22/2010	9:46:00 AM GZ-7	1.86E-06	9.33E-04	1.86E+03	9.33E+05
2/23/2010	9:08:00 AM GZ-7	1.81E-06	9.41E-04	1.81E+03	9.41E+05
2/24/2010	9:07:00 AM GZ-7	1.83E-06	9.82E-04	1.83E+03	9.82E+05
2/25/2010	8:51:00 AM GZ-7	1.80E-06	9.76E-04	1.80E+03	9.76E+05
2/26/2010	10:50:00 AM GZ-7	1.86E-06	9.46E-04	1.86E+03	9.46E+05
2/27/2010	7:15:00 AM GZ-7	1.94E-06	9.93E-04	1.94E+03	9.93E+05
2/28/2010	8:14:00 AM GZ-7	1.93E-06	8.93E-04	1.93E+03	8.93E+05
3/1/2010	9:49:00 AM GZ-7	1.89E-06	9.59E-04	1.89E+03	9.59E+05
3/2/2010	8:33:00 AM GZ-7	1.81E-06	9.81E-04	1.81E+03	9.81E+05
3/3/2010	8:41:00 AM GZ-7	1.86E-06	1.00E-03	1.86E+03	1.00E+06
3/4/2010	8:45:00 AM GZ-7	1.83E-06	9.83E-04	1.83E+03	9.83E+05
3/5/2010	8:09:00 AM GZ-7	1.82E-06	1.09E-03	1.82E+03	1.09E+06

3/6/2010	10:04:00 AM	GZ-7	1.77E-06	1.10E-03	1.77E+03	1.10E+06
3/7/2010	8:41:00 AM	GZ-7	1.81E-06	1.12E-03	1.81E+03	1.12E+06
3/8/2010	9:17:00 AM	GZ-7	1.81E-06	1.15E-03	1.81E+03	1.15E+06
3/9/2010	8:23:00 AM	GZ-7	1.85E-06	1.15E-03	1.85E+03	1.15E+06
3/10/2010	8:31:00 AM	GZ-7	1.88E-06	1.08E-03	1.88E+03	1.08E+06
3/11/2010	9:08:00 AM	GZ-7	1.83E-06	1.15E-03	1.83E+03	1.15E+06
3/12/2010	8:41:00 AM	GZ-7	1.80E-06	1.20E-03	1.80E+03	1.20E+06
3/13/2010	8:40:00 AM	GZ-7	1.85E-06	1.15E-03	1.85E+03	1.15E+06
3/14/2010	8:46:00 AM	GZ-7	1.78E-06	1.21E-03	1.78E+03	1.21E+06
3/15/2010	10:37:00 AM	GZ-7	1.82E-06	1.11E-03	1.82E+03	1.11E+06
3/16/2010	8:45:00 AM	GZ-7	1.79E-06	1.10E-03	1.79E+03	1.10E+06
3/17/2010	9:12:00 AM	GZ-7	1.81E-06	1.22E-03	1.81E+03	1.22E+06
3/18/2010	11:57:00 AM	GZ-7	1.86E-06	1.02E-03	1.86E+03	1.02E+06
3/19/2010	9:26:00 AM	GZ-7	1.85E-06	9.87E-04	1.85E+03	9.87E+05
3/20/2010	9:47:00 AM	GZ-7	1.85E-06	9.81E-04	1.85E+03	9.81E+05
3/21/2010	8:49:00 AM	GZ-7	1.88E-06	9.61E-04	1.88E+03	9.61E+05
3/22/2010	9:44:00 AM	GZ-7	1.88E-06	9.61E-04	1.88E+03	9.61E+05
3/23/2010	9:13:00 AM	GZ-7	1.94E-06	8.88E-04	1.94E+03	8.88E+05
3/24/2010	8:56:00 AM	GZ-7	1.85E-06	8.56E-04	1.85E+03	8.56E+05
3/25/2010	9:16:00 AM	GZ-7	1.79E-06	8.69E-04	1.79E+03	8.69E+05
3/26/2010	8:36:00 AM	GZ-7	1.83E-06	9.13E-04	1.83E+03	9.13E+05
3/27/2010	8:49:00 AM	GZ-7	1.79E-06	9.44E-04	1.79E+03	9.44E+05
3/28/2010	9:23:00 AM	GZ-7	1.82E-06	9.74E-04	1.82E+03	9.74E+05
3/29/2010	12:18:00 PM	GZ-7	1.82E-06	1.21E-03	1.82E+03	1.21E+06
3/30/2010	9:02:00 AM	GZ-7	1.80E-06	1.20E-03	1.80E+03	1.20E+06
3/31/2010	9:39:00 AM	GZ-7	1.78E-06	1.12E-03	1.78E+03	1.12E+06
4/1/2010	11:26:00 AM	GZ-7	1.74E-06	1.08E-03	1.74E+03	1.08E+06
4/2/2010	9:17:00 AM	GZ-7	1.71E-06	8.35E-04	1.71E+03	8.35E+05
4/3/2010	8:50:00 AM	GZ-7	1.78E-06	7.99E-04	1.78E+03	7.99E+05
4/4/2010	9:54:00 AM	GZ-7	1.82E-06	8.25E-04	1.82E+03	8.25E+05
4/5/2010	9:55:00 AM	GZ-7	1.82E-06	8.13E-04	1.82E+03	8.13E+05
4/6/2010	9:37:00 AM	GZ-7	1.84E-06	7.57E-04	1.84E+03	7.57E+05
4/7/2010	9:22:00 AM	GZ-7	1.85E-06	9.84E-04	1.85E+03	9.84E+05
4/8/2010	9:16:00 AM	GZ-7	1.86E-06	7.28E-04	1.86E+03	7.28E+05
4/9/2010	9:45:00 AM	GZ-7	1.77E-06	8.52E-04	1.77E+03	8.52E+05
2/3/2010	2:58:00 PM	GZ-9	1.85E-06	1.85E-06	1.85E+03	1.85E+03
2/4/2010	9:22:00 AM	GZ-9	1.82E-06	1.82E-06	1.82E+03	1.82E+03
2/5/2010	12:55:00 PM	GZ-9	1.87E-06	1.87E-06	1.87E+03	1.87E+03
2/5/2010	12:56:00 PM	GZ-9	6.56E-07	6.56E-07	6.56E+02	6.56E+02
2/6/2010	12:22:00 PM	GZ-9	1.87E-06	1.87E-06	1.87E+03	1.87E+03
2/7/2010	9:02:00 AM	GZ-9	1.83E-06	1.83E-06	1.83E+03	1.83E+03

2/8/2010	9:42:00 AM GZ-9	1.79E-06	1.79E-06	1.79E+03	1.79E+03
2/9/2010	9:06:00 AM GZ-9	1.88E-06	1.88E-06	1.88E+03	1.88E+03
2/12/2010	8:17:00 AM GZ-9	1.84E-06	1.84E-06	1.84E+03	1.84E+03
2/16/2010	8:31:00 AM GZ-9	1.92E-06	1.92E-06	1.92E+03	1.92E+03
2/22/2010	9:29:00 AM GZ-9	1.88E-06	1.88E-06	1.88E+03	1.88E+03
3/1/2010	8:23:00 AM GZ-9	1.90E-06	1.90E-06	1.90E+03	1.90E+03
3/8/2010	8:54:00 AM GZ-9	1.83E-06	1.83E-06	1.83E+03	1.83E+03
3/15/2010	9:06:00 AM GZ-9	1.82E-06	1.82E-06	1.82E+03	1.82E+03
3/22/2010	8:20:00 AM GZ-9	1.89E-06	1.89E-06	1.89E+03	1.89E+03
4/5/2010	8:30:00 AM GZ-9	1.81E-06	1.81E-06	1.81E+03	1.81E+03
1/28/2010	3:40:00 PM GZ-10	1.82E-06	1.82E-06	1.82E+03	1.82E+03
1/28/2010	3:41:00 PM GZ-10	6.38E-07	6.38E-07	6.38E+02	6.38E+02
1/30/2010	2:45:00 PM GZ-10	6.61E-07	6.61E-07	6.61E+02	6.61E+02
2/5/2010	4:00:00 PM GZ-10	1.98E-06	2.24E-03	1.98E+03	2.24E+06
2/6/2010	8:56:00 AM GZ-10	1.86E-06	2.45E-03	1.86E+03	2.45E+06
2/7/2010	8:16:00 AM GZ-10	1.83E-06	2.38E-03	1.83E+03	2.38E+06
2/8/2010	8:37:00 AM GZ-10	1.81E-06	2.52E-03	1.81E+03	2.52E+06
2/9/2010	8:23:00 AM GZ-10	1.87E-06	2.40E-03	1.87E+03	2.40E+06
2/10/2010	8:10:00 AM GZ-10	1.80E-06	2.28E-03	1.80E+03	2.28E+06
2/11/2010	8:35:00 AM GZ-10	1.86E-06	2.23E-03	1.86E+03	2.23E+06
2/12/2010	8:02:00 AM GZ-10	1.84E-06	2.21E-03	1.84E+03	2.21E+06
2/15/2010	8:17:00 AM GZ-10	1.86E-06	2.11E-03	1.86E+03	2.11E+06
2/16/2010	8:17:00 AM GZ-10	1.93E-06	2.06E-03	1.93E+03	2.06E+06
2/17/2010	8:05:00 AM GZ-10	1.89E-06	1.99E-03	1.89E+03	1.99E+06
2/18/2010	8:10:00 AM GZ-10	1.93E-06	2.20E-03	1.93E+03	2.20E+06
2/18/2010	8:18:00 AM GZ-10	1.93E-06	1.99E-03	1.93E+03	1.99E+06
2/19/2010	8:00:00 AM GZ-10	1.87E-06	2.27E-03	1.87E+03	2.27E+06
2/20/2010	8:10:00 AM GZ-10	1.85E-06	1.84E-03	1.85E+03	1.84E+06
2/21/2010	11:20:00 AM GZ-10	1.83E-06	1.81E-03	1.83E+03	1.81E+06
2/22/2010	10:00:00 AM GZ-10	1.87E-06	1.70E-03	1.87E+03	1.70E+06
2/23/2010	10:29:00 AM GZ-10	1.82E-06	1.69E-03	1.82E+03	1.69E+06
2/24/2010	1:08:00 PM GZ-10	1.83E-06	1.69E-03	1.83E+03	1.69E+06
2/25/2010	8:22:00 AM GZ-10	1.84E-06	1.79E-03	1.84E+03	1.79E+06
2/26/2010	1:28:00 PM GZ-10	1.86E-06	1.81E-03	1.86E+03	1.81E+06
2/27/2010	9:10:00 AM GZ-10	1.86E-06	1.72E-03	1.86E+03	1.72E+06
2/28/2010	7:40:00 AM GZ-10	1.93E-06	1.70E-03	1.93E+03	1.70E+06
3/1/2010	7:50:00 AM GZ-10	1.90E-06	1.62E-03	1.90E+03	1.62E+06
3/2/2010	7:46:00 AM GZ-10	1.81E-06	1.54E-03	1.81E+03	1.54E+06
3/3/2010	7:53:00 AM GZ-10	1.81E-06	1.41E-03	1.81E+03	1.41E+06
3/4/2010	7:45:00 AM GZ-10	1.85E-06	1.25E-03	1.85E+03	1.25E+06
3/5/2010	7:26:00 AM GZ-10	1.81E-06	1.12E-03	1.81E+03	1.12E+06

3/6/2010	8:46:00 AM GZ-10	1.77E-06	1.18E-03	1.77E+03	1.18E+06
3/7/2010	7:42:00 AM GZ-10	1.83E-06	1.08E-03	1.83E+03	1.08E+06
3/8/2010	8:12:00 AM GZ-10	1.82E-06	6.54E-04	1.82E+03	6.54E+05
3/9/2010	8:13:00 AM GZ-10	1.85E-06	5.25E-04	1.85E+03	5.25E+05
3/10/2010	8:17:00 AM GZ-10	1.89E-06	4.56E-04	1.89E+03	4.56E+05
3/11/2010	8:21:00 AM GZ-10	1.82E-06	4.32E-04	1.82E+03	4.32E+05
3/12/2010	7:34:00 AM GZ-10	1.80E-06	3.40E-04	1.80E+03	3.40E+05
3/13/2010	7:27:00 AM GZ-10	1.84E-06	2.88E-04	1.84E+03	2.88E+05
3/14/2010	8:26:00 AM GZ-10	1.77E-06	2.92E-04	1.77E+03	2.92E+05
3/15/2010	8:24:00 AM GZ-10	1.81E-06	2.02E-04	1.81E+03	2.02E+05
3/16/2010	7:51:00 AM GZ-10	1.79E-06	1.68E-04	1.79E+03	1.68E+05
3/17/2010	8:38:00 AM GZ-10	1.81E-06	1.34E-04	1.81E+03	1.34E+05
3/18/2010	7:37:00 AM GZ-10	1.81E-06	1.35E-04	1.81E+03	1.35E+05
3/19/2010	8:23:00 AM GZ-10	1.85E-06	9.75E-05	1.85E+03	9.75E+04
3/20/2010	8:16:00 AM GZ-10	1.85E-06	8.70E-05	1.85E+03	8.70E+04
3/21/2010	8:07:00 AM GZ-10	1.88E-06	5.82E-05	1.88E+03	5.82E+04
3/22/2010	7:35:00 AM GZ-10	1.89E-06	4.08E-05	1.89E+03	4.08E+04
3/23/2010	8:54:00 AM GZ-10	1.95E-06	3.86E-05	1.95E+03	3.86E+04
3/24/2010	8:22:00 AM GZ-10	1.79E-06	3.22E-05	1.79E+03	3.22E+04
3/25/2010	7:40:00 AM GZ-10	1.79E-06	3.21E-05	1.79E+03	3.21E+04
3/26/2010	8:16:00 AM GZ-10	1.83E-06	2.27E-05	1.83E+03	2.27E+04
3/27/2010	9:17:00 AM GZ-10	1.79E-06	1.91E-05	1.79E+03	1.91E+04
3/28/2010	8:16:00 AM GZ-10	1.82E-06	1.19E-05	1.82E+03	1.19E+04
3/29/2010	8:13:00 AM GZ-10	1.81E-06	9.50E-06	1.81E+03	9.50E+03
3/30/2010	8:14:00 AM GZ-10	1.80E-06	5.18E-06	1.80E+03	5.18E+03
3/31/2010	9:04:00 AM GZ-10	1.78E-06	2.63E-06	1.78E+03	2.63E+03
4/1/2010	9:33:00 AM GZ-10	1.89E-06	3.16E-06	1.89E+03	3.16E+03
4/2/2010	8:39:00 AM GZ-10	1.76E-06	6.43E-06	1.76E+03	6.43E+03
4/3/2010	9:58:00 AM GZ-10	1.79E-06	2.90E-06	1.79E+03	2.90E+03
4/4/2010	9:14:00 AM GZ-10	1.82E-06	1.82E-06	1.82E+03	1.82E+03
4/5/2010	7:50:00 AM GZ-10	1.82E-06	2.64E-06	1.82E+03	2.64E+03
4/6/2010	8:22:00 AM GZ-10	1.84E-06	1.84E-06	1.84E+03	1.84E+03
4/7/2010	8:25:00 AM GZ-10	1.86E-06	2.38E-06	1.86E+03	2.38E+03
4/8/2010	8:06:00 AM GZ-10	1.86E-06	2.16E-06	1.86E+03	2.16E+03
4/9/2010	8:56:00 AM GZ-10	1.77E-06	3.53E-06	1.77E+03	3.53E+03
2/4/2010	9:07:00 AM GZ-11	1.81E-06	1.81E-06	1.81E+03	1.81E+03
2/5/2010	9:20:00 AM GZ-11	6.59E-07	6.59E-07	6.59E+02	6.59E+02
2/5/2010	9:21:00 AM GZ-11	1.86E-06	1.86E-06	1.86E+03	1.86E+03
2/6/2010	12:45:00 PM GZ-11	1.88E-06	1.88E-06	1.88E+03	1.88E+03
2/7/2010	9:14:00 AM GZ-11	1.84E-06	1.84E-06	1.84E+03	1.84E+03
2/8/2010	10:55:00 AM GZ-11	1.81E-06	1.81E-06	1.81E+03	1.81E+03

2/9/2010	9:36:00 AM GZ-11	1.88E-06	1.88E-06	1.88E+03	1.88E+03
2/12/2010	8:58:00 AM GZ-11	1.83E-06	1.83E-06	1.83E+03	1.83E+03
2/16/2010	9:15:00 AM GZ-11	1.92E-06	1.92E-06	1.92E+03	1.92E+03
2/19/2010	9:16:00 AM GZ-11	1.86E-06	1.86E-06	1.86E+03	1.86E+03
2/20/2010	8:55:00 AM GZ-11	1.86E-06	1.86E-06	1.86E+03	1.86E+03
2/22/2010	10:02:00 AM GZ-11	1.88E-06	1.88E-06	1.88E+03	1.88E+03
2/24/2010	9:24:00 AM GZ-11	1.83E-06	1.83E-06	1.83E+03	1.83E+03
2/25/2010	9:06:00 AM GZ-11	1.80E-06	1.80E-06	1.80E+03	1.80E+03
3/1/2010	10:06:00 AM GZ-11	1.80E-06	1.80E-06	1.80E+03	1.80E+03
3/4/2010	8:50:00 AM GZ-11	1.86E-06	1.86E-06	1.86E+03	1.86E+03
3/8/2010	9:40:00 AM GZ-11	1.82E-06	1.82E-06	1.82E+03	1.82E+03
3/11/2010	9:22:00 AM GZ-11	1.82E-06	1.82E-06	1.82E+03	1.82E+03
3/15/2010	11:38:00 AM GZ-11	1.83E-06	1.83E-06	1.83E+03	1.83E+03
3/18/2010	9:34:00 AM GZ-11	1.86E-06	1.86E-06	1.86E+03	1.86E+03
3/22/2010	9:59:00 AM GZ-11	1.89E-06	1.89E-06	1.89E+03	1.89E+03
3/25/2010	9:24:00 AM GZ-11	6.37E-07	6.37E-07	6.37E+02	6.37E+02
3/29/2010	12:05:00 PM GZ-11	1.81E-06	1.81E-06	1.81E+03	1.81E+03
4/1/2010	11:28:00 AM GZ-11	1.75E-06	1.75E-06	1.75E+03	1.75E+03
4/5/2010	9:38:00 AM GZ-11	1.81E-06	1.81E-06	1.81E+03	1.81E+03
4/8/2010	9:06:00 AM GZ-11	6.30E-07	6.71E-07	6.30E+02	6.71E+02
2/5/2010	11:00:00 AM GZ-12	2.86E-06	1.46E-05	2.86E+03	1.46E+04
2/5/2010	11:01:00 AM GZ-12		1.51E-05	0.00E+00	1.51E+04
2/6/2010	7:40:00 AM GZ-12		1.57E-05	0.00E+00	1.57E+04
2/7/2010	7:28:00 AM GZ-12		6.91E-06	0.00E+00	6.91E+03
2/8/2010	11:37:00 AM GZ-12		1.49E-05	0.00E+00	1.49E+04
2/9/2010	9:58:00 AM GZ-12		2.26E-05	0.00E+00	2.26E+04
2/10/2010	8:56:00 AM GZ-12	1.80E-06	1.98E-05	1.80E+03	1.98E+04
2/12/2010	9:35:00 AM GZ-12	1.85E-06	2.04E-05	1.85E+03	2.04E+04
2/16/2010	10:08:00 AM GZ-12	1.92E-06	1.88E-05	1.92E+03	1.88E+04
2/17/2010	9:10:00 AM GZ-12	1.89E-06	1.35E-05	1.89E+03	1.35E+04
2/19/2010	9:34:00 AM GZ-12	1.86E-06	1.85E-05	1.86E+03	1.85E+04
2/22/2010	10:22:00 AM GZ-12	1.96E-06	3.18E-05	1.96E+03	3.18E+04
2/25/2010	10:25:00 AM GZ-12	1.80E-06	1.60E-05	1.80E+03	1.60E+04
3/1/2010	11:25:00 AM GZ-12	1.90E-06	4.51E-05	1.90E+03	4.51E+04
3/4/2010	10:36:00 AM GZ-12	1.87E-06	2.22E-05	1.87E+03	2.22E+04
3/8/2010	1:02:00 PM GZ-12	1.85E-06	3.56E-05	1.85E+03	3.56E+04
3/11/2010	11:21:00 AM GZ-12	1.82E-06	5.67E-05	1.82E+03	5.67E+04
3/15/2010	2:01:00 PM GZ-12	1.82E-06	7.84E-05	1.82E+03	7.84E+04
3/18/2010	11:35:00 AM GZ-12	1.86E-06	1.28E-04	1.86E+03	1.28E+05
3/22/2010	3:22:00 PM GZ-12	1.94E-06	1.16E-04	1.94E+03	1.16E+05
3/25/2010	1:06:00 PM GZ-12	1.82E-06	1.04E-04	1.82E+03	1.04E+05

3/29/2010	9:38:00 AM	GZ-12	1.82E-06	1.55E-04	1.82E+03	1.55E+05
4/1/2010	1:27:00 PM	GZ-12	1.71E-06	2.16E-04	1.71E+03	2.16E+05
4/5/2010	2:19:00 PM	GZ-12	1.84E-06	2.67E-04	1.84E+03	2.67E+05
4/8/2010	12:15:00 PM	GZ-12	1.78E-06	2.59E-04	1.78E+03	2.59E+05
2/5/2010	12:35:00 PM	GZ-13	6.59E-07	6.59E-07	6.59E+02	6.59E+02
2/6/2010	9:43:00 AM	GZ-13	1.86E-06	1.86E-06	1.86E+03	1.86E+03
2/7/2010	10:34:00 AM	GZ-13	1.85E-06	1.85E-06	1.85E+03	1.85E+03
2/8/2010	12:11:00 PM	GZ-13	1.87E-06	1.87E-06	1.87E+03	1.87E+03
2/9/2010	10:45:00 AM	GZ-13	1.88E-06	1.88E-06	1.88E+03	1.88E+03
2/10/2010	9:10:00 AM	GZ-13	1.81E-06	1.81E-06	1.81E+03	1.81E+03
2/12/2010	11:25:00 AM	GZ-13	1.79E-06	1.79E-06	1.79E+03	1.79E+03
2/16/2010	11:54:00 AM	GZ-13	1.93E-06	1.93E-06	1.93E+03	1.93E+03
2/17/2010	8:48:00 AM	GZ-13	1.89E-06	1.89E-06	1.89E+03	1.89E+03
2/19/2010	9:56:00 AM	GZ-13	1.86E-06	1.86E-06	1.86E+03	1.86E+03
2/22/2010	12:54:00 PM	GZ-13	1.89E-06	1.89E-06	1.89E+03	1.89E+03
2/25/2010	10:41:00 AM	GZ-13	1.81E-06	1.81E-06	1.81E+03	1.81E+03
3/1/2010	11:45:00 AM	GZ-13	1.89E-06	1.89E-06	1.89E+03	1.89E+03
3/4/2010	11:56:00 AM	GZ-13	1.87E-06	1.87E-06	1.87E+03	1.87E+03
3/8/2010	10:28:00 AM	GZ-13	1.82E-06	1.82E-06	1.82E+03	1.82E+03
3/11/2010	10:46:00 AM	GZ-13	1.82E-06	1.82E-06	1.82E+03	1.82E+03
3/15/2010	10:37:00 AM	GZ-13	1.82E-06	1.82E-06	1.82E+03	1.82E+03
3/18/2010	11:03:00 AM	GZ-13	1.86E-06	1.86E-06	1.86E+03	1.86E+03
3/22/2010	2:16:00 PM	GZ-13	1.95E-06	1.95E-06	1.95E+03	1.95E+03
3/25/2010	2:05:00 PM	GZ-13	1.82E-06	1.82E-06	1.82E+03	1.82E+03
3/29/2010	9:02:00 AM	GZ-13	1.80E-06	1.80E-06	1.80E+03	1.80E+03
4/1/2010	2:28:00 PM	GZ-13	1.69E-06	1.69E-06	1.69E+03	1.69E+03
4/5/2010	12:38:00 PM	GZ-13	6.39E-07	6.39E-07	6.39E+02	6.39E+02
4/8/2010	11:35:00 AM	GZ-13	6.34E-07	6.34E-07	6.34E+02	6.34E+02
2/22/2010	2:45:00 PM	GZ-13 (Deep)	6.60E-07	1.43E-06	6.60E+02	1.43E+03
2/24/2010	12:30:00 PM	GZ-13 (Deep)	1.83E-06	2.14E-06	1.83E+03	2.14E+03
2/24/2010	12:31:00 PM	GZ-13 (Deep)	6.38E-07	1.90E-06	6.38E+02	1.90E+03
3/2/2010	10:52:00 AM	GZ-13 (Deep)	1.80E-06	1.80E-06	1.80E+03	1.80E+03
3/2/2010	10:53:00 AM	GZ-13 (Deep)	6.40E-07	1.49E-06	6.40E+02	1.49E+03
3/4/2010	10:40:00 AM	GZ-13 (Deep)	1.87E-06	1.87E-06	1.87E+03	1.87E+03
3/8/2010	11:01:00 AM	GZ-13 (Deep)	6.43E-07	1.21E-06	6.43E+02	1.21E+03
3/11/2010	11:39:00 AM	GZ-13 (Deep)	1.82E-06	1.82E-06	1.82E+03	1.82E+03
3/15/2010	12:47:00 PM	GZ-13 (Deep)	1.79E-06	1.79E-06	1.79E+03	1.79E+03
3/18/2010	12:18:00 PM	GZ-13 (Deep)	1.87E-06	1.87E-06	1.87E+03	1.87E+03
3/22/2010	2:35:00 PM	GZ-13 (Deep)	1.94E-06	1.94E-06	1.94E+03	1.94E+03

3/25/2010	12:57:00 PM	GZ-13 (Deep)	1.83E-06	1.83E-06	1.83E+03	1.83E+03
3/29/2010	10:22:00 AM	GZ-13 (Deep)	6.53E-07	1.11E-06	6.53E+02	1.11E+03
3/31/2010	8:35:00 AM	GZ-13 (Deep)	6.20E-07	1.47E-06	6.20E+02	1.47E+03
4/1/2010	8:58:00 AM	GZ-13 (Deep)	6.32E-07	1.26E-06	6.32E+02	1.26E+03
4/2/2010	8:00:00 AM	GZ-13 (Deep)	6.25E-07	1.11E-06	6.25E+02	1.11E+03
4/3/2010	8:15:00 AM	GZ-13 (Deep)	6.26E-07	1.25E-06	6.26E+02	1.25E+03
4/4/2010	8:32:00 AM	GZ-13 (Deep)	6.46E-07	1.03E-06	6.46E+02	1.03E+03
4/5/2010	12:55:00 PM	GZ-13 (Deep)	6.39E-07	1.16E-06	6.39E+02	1.16E+03
4/8/2010	12:04:00 PM	GZ-13 (Deep)	6.33E-07	9.68E-07	6.33E+02	9.68E+02
1/30/2010	4:15:00 PM	GZ-14	1.93E-06	6.34E-05	1.93E+03	6.34E+04
1/31/2010	10:40:00 AM	GZ-14	1.92E-06	7.05E-05	1.92E+03	7.05E+04
2/1/2010	10:55:00 AM	GZ-14	1.81E-06	7.53E-05	1.81E+03	7.53E+04
2/2/2010	10:05:00 AM	GZ-14	1.98E-06	8.05E-05	1.98E+03	8.05E+04
2/3/2010	9:35:00 AM	GZ-14	1.87E-06	6.94E-05	1.87E+03	6.94E+04
2/4/2010	10:33:00 AM	GZ-14	1.81E-06	7.55E-05	1.81E+03	7.55E+04
2/5/2010	9:51:00 AM	GZ-14	1.88E-06	8.58E-05	1.88E+03	8.58E+04
2/6/2010	8:48:00 AM	GZ-14	1.87E-06	7.86E-05	1.87E+03	7.86E+04
2/7/2010	8:18:00 AM	GZ-14	1.88E-06	8.15E-05	1.88E+03	8.15E+04
2/8/2010	9:43:00 AM	GZ-14	1.80E-06	7.62E-05	1.80E+03	7.62E+04
2/9/2010	8:58:00 AM	GZ-14	1.88E-06	9.85E-05	1.88E+03	9.85E+04
2/10/2010	9:04:00 AM	GZ-14	1.80E-06	9.28E-05	1.80E+03	9.28E+04
2/11/2010	7:40:00 AM	GZ-14	1.87E-06	8.67E-05	1.87E+03	8.67E+04
2/12/2010	8:46:00 AM	GZ-14	1.84E-06	9.98E-05	1.84E+03	9.98E+04
2/15/2010	8:38:00 AM	GZ-14	1.83E-06	9.03E-05	1.83E+03	9.03E+04
2/16/2010	9:42:00 AM	GZ-14	1.93E-06	1.11E-04	1.93E+03	1.11E+05
2/17/2010	8:49:00 AM	GZ-14	1.88E-06	1.13E-04	1.88E+03	1.13E+05
2/18/2010	9:29:00 AM	GZ-14	1.93E-06	1.19E-04	1.93E+03	1.19E+05
2/19/2010	8:14:00 AM	GZ-14	1.87E-06	1.19E-04	1.87E+03	1.19E+05
2/20/2010	10:35:00 AM	GZ-14	1.87E-06	1.18E-04	1.87E+03	1.18E+05
2/22/2010	9:15:00 AM	GZ-14	1.87E-06	1.13E-04	1.87E+03	1.13E+05
2/23/2010	7:38:00 AM	GZ-14	1.81E-06	1.19E-04	1.81E+03	1.19E+05
2/24/2010	10:51:00 AM	GZ-14	1.83E-06	1.22E-04	1.83E+03	1.22E+05
2/25/2010	8:40:00 AM	GZ-14	1.87E-06	1.28E-04	1.87E+03	1.28E+05
2/26/2010	8:12:00 AM	GZ-14	1.87E-06	1.36E-04	1.87E+03	1.36E+05
2/27/2010	8:12:00 AM	GZ-14	1.93E-06	1.28E-04	1.93E+03	1.28E+05
2/28/2010	9:47:00 AM	GZ-14	1.93E-06	1.14E-04	1.93E+03	1.14E+05
3/1/2010	8:50:00 AM	GZ-14	1.89E-06	1.42E-04	1.89E+03	1.42E+05
3/3/2010	11:44:00 AM	GZ-14	1.86E-06	1.40E-04	1.86E+03	1.40E+05
3/4/2010	7:42:00 AM	GZ-14	1.86E-06	1.44E-04	1.86E+03	1.44E+05
3/5/2010	10:20:00 AM	GZ-14	1.81E-06	1.56E-04	1.81E+03	1.56E+05
3/6/2010	7:24:00 AM	GZ-14	1.77E-06	1.54E-04	1.77E+03	1.54E+05

3/7/2010	7:02:00 AM GZ-14	1.83E-06	1.64E-04	1.83E+03	1.64E+05
3/8/2010	8:32:00 AM GZ-14	1.83E-06	1.47E-04	1.83E+03	1.47E+05
3/9/2010	9:16:00 AM GZ-14	1.85E-06	1.65E-04	1.85E+03	1.65E+05
3/10/2010	9:43:00 AM GZ-14	1.90E-06	1.57E-04	1.90E+03	1.57E+05
3/11/2010	8:10:00 AM GZ-14	1.82E-06	1.55E-04	1.82E+03	1.55E+05
3/12/2010	9:40:00 AM GZ-14	1.83E-06	1.60E-04	1.83E+03	1.60E+05
3/13/2010	7:12:00 AM GZ-14	1.85E-06	1.77E-04	1.85E+03	1.77E+05
3/14/2010	7:34:00 AM GZ-14	1.77E-06	1.66E-04	1.77E+03	1.66E+05
3/15/2010	9:08:00 AM GZ-14	1.75E-06	1.40E-04	1.75E+03	1.40E+05
3/16/2010	9:42:00 AM GZ-14	1.79E-06	1.99E-04	1.79E+03	1.99E+05
3/17/2010	7:47:00 AM GZ-14	1.81E-06	1.81E-04	1.81E+03	1.81E+05
3/18/2010	8:18:00 AM GZ-14	1.81E-06	1.80E-04	1.81E+03	1.80E+05
3/19/2010	7:25:00 AM GZ-14	1.85E-06	1.93E-04	1.85E+03	1.93E+05
3/20/2010	7:30:00 AM GZ-14	1.85E-06	2.04E-04	1.85E+03	2.04E+05
3/21/2010	7:31:00 AM GZ-14	1.88E-06	1.94E-04	1.88E+03	1.94E+05
3/22/2010	8:50:00 AM GZ-14	1.89E-06	1.88E-04	1.89E+03	1.88E+05
3/23/2010	7:47:00 AM GZ-14	1.94E-06	2.04E-04	1.94E+03	2.04E+05
3/24/2010	7:36:00 AM GZ-14	1.85E-06	2.23E-04	1.85E+03	2.23E+05
3/25/2010	8:20:00 AM GZ-14	1.78E-06	2.06E-04	1.78E+03	2.06E+05
3/26/2010	7:32:00 AM GZ-14	1.83E-06	2.24E-04	1.83E+03	2.24E+05
3/27/2010	7:40:00 AM GZ-14	1.78E-06	2.21E-04	1.78E+03	2.21E+05
3/28/2010	7:38:00 AM GZ-14	1.82E-06	2.31E-04	1.82E+03	2.31E+05
3/29/2010	8:52:00 AM GZ-14	1.82E-06	2.18E-04	1.82E+03	2.18E+05
3/30/2010	7:50:00 AM GZ-14	1.80E-06	2.41E-04	1.80E+03	2.41E+05
3/31/2010	10:31:00 AM GZ-14	1.78E-06	2.40E-04	1.78E+03	2.40E+05
4/1/2010	8:48:00 AM GZ-14	1.88E-06	2.22E-04	1.88E+03	2.22E+05
4/2/2010	9:50:00 AM GZ-14	1.75E-06	2.21E-04	1.75E+03	2.21E+05
4/3/2010	7:18:00 AM GZ-14	1.82E-06	2.55E-04	1.82E+03	2.55E+05
4/4/2010	7:25:00 AM GZ-14	1.82E-06	2.40E-04	1.82E+03	2.40E+05
4/5/2010	8:20:00 AM GZ-14	1.84E-06	2.34E-04	1.84E+03	2.34E+05
4/6/2010	7:29:00 AM GZ-14	1.84E-06	2.58E-04	1.84E+03	2.58E+05
4/7/2010	7:22:00 AM GZ-14	1.97E-06	2.58E-04	1.97E+03	2.58E+05
4/8/2010	8:48:00 AM GZ-14	1.85E-06	2.60E-04	1.85E+03	2.60E+05
4/9/2010	7:52:00 AM GZ-14	1.78E-06	2.72E-04	1.78E+03	2.72E+05
3/1/2010	9:23:00 AM GZ-14 (Deep)	1.89E-06	1.89E-06	1.89E+03	1.89E+03
3/1/2010	9:24:00 AM GZ-14 (Deep)	6.38E-07	6.38E-07	6.38E+02	6.38E+02
3/2/2010	12:25:00 PM GZ-14 (Deep)	1.81E-06	1.81E-06	1.81E+03	1.81E+03
3/2/2010	12:26:00 PM GZ-14 (Deep)	6.41E-07	6.41E-07	6.41E+02	6.41E+02
3/4/2010	7:38:00 AM GZ-14 (Deep)	1.86E-06	2.29E-06	1.86E+03	2.29E+03
3/6/2010	7:45:00 AM GZ-14 (Deep)	1.77E-06	1.77E-06	1.77E+03	1.77E+03
3/8/2010	9:15:00 AM GZ-14 (Deep)	1.83E-06	1.83E-06	1.83E+03	1.83E+03

3/11/2010	9:15:00 AM	GZ-14 (Deep)	1.82E-06	1.82E-06	1.82E+03	1.82E+03
3/15/2010	8:52:00 AM	GZ-14 (Deep)	1.82E-06	1.82E-06	1.82E+03	1.82E+03
3/18/2010	10:06:00 AM	GZ-14 (Deep)	1.81E-06	1.81E-06	1.81E+03	1.81E+03
3/22/2010	8:55:00 AM	GZ-14 (Deep)	1.88E-06	1.88E-06	1.88E+03	1.88E+03
3/25/2010	10:50:00 AM	GZ-14 (Deep)	1.83E-06	1.83E-06	1.83E+03	1.83E+03
3/30/2010	8:38:00 AM	GZ-14 (Deep)	1.80E-06	1.80E-06	1.80E+03	1.80E+03
4/1/2010	8:26:00 AM	GZ-14 (Deep)	1.86E-06	1.86E-06	1.86E+03	1.86E+03
4/5/2010	8:25:00 AM	GZ-14 (Deep)	1.84E-06	1.84E-06	1.84E+03	1.84E+03
4/8/2010	8:40:00 AM	GZ-14 (Deep)	1.87E-06	1.87E-06	1.87E+03	1.87E+03
2/12/2010	4:45:00 PM	GZ-15	1.83E-06	1.66E-04	1.83E+03	1.66E+05
2/13/2010	9:50:00 AM	GZ-15	1.82E-06	1.92E-04	1.82E+03	1.92E+05
2/14/2010	10:05:00 AM	GZ-15	1.88E-06	2.19E-04	1.88E+03	2.19E+05
2/15/2010	8:58:00 AM	GZ-15	1.84E-06	2.39E-04	1.84E+03	2.39E+05
2/16/2010	11:31:00 AM	GZ-15	1.93E-06	2.21E-04	1.93E+03	2.21E+05
2/17/2010	9:29:00 AM	GZ-15	1.87E-06	3.05E-04	1.87E+03	3.05E+05
2/18/2010	9:55:00 AM	GZ-15	1.93E-06	3.55E-04	1.93E+03	3.55E+05
2/19/2010	9:05:00 AM	GZ-15	1.84E-06	3.42E-04	1.84E+03	3.42E+05
2/22/2010	12:34:00 PM	GZ-15	1.96E-06	5.52E-04	1.96E+03	5.52E+05
2/25/2010	9:50:00 AM	GZ-15	1.80E-06	4.49E-04	1.80E+03	4.49E+05
3/1/2010	10:26:00 AM	GZ-15	1.82E-06	5.64E-04	1.82E+03	5.64E+05
3/4/2010	9:13:00 AM	GZ-15	1.85E-06	5.93E-04	1.85E+03	5.93E+05
3/8/2010	12:44:00 PM	GZ-15	1.85E-06	5.90E-04	1.85E+03	5.90E+05
3/11/2010	9:36:00 AM	GZ-15	1.82E-06	5.72E-04	1.82E+03	5.72E+05
3/15/2010	1:48:00 PM	GZ-15	1.79E-06	5.74E-04	1.79E+03	5.74E+05
3/18/2010	9:57:00 AM	GZ-15	1.86E-06	6.41E-04	1.86E+03	6.41E+05
3/22/2010	11:14:00 AM	GZ-15	1.88E-06	7.03E-04	1.88E+03	7.03E+05
3/25/2010	11:55:00 AM	GZ-15	1.82E-06	6.87E-04	1.82E+03	6.87E+05
3/29/2010	12:59:00 PM	GZ-15	1.82E-06	7.42E-04	1.82E+03	7.42E+05
4/1/2010	11:48:00 AM	GZ-15	1.74E-06	7.14E-04	1.74E+03	7.14E+05
4/5/2010	10:36:00 AM	GZ-15	1.84E-06	7.10E-04	1.84E+03	7.10E+05
4/8/2010	9:26:00 AM	GZ-15	1.78E-06	7.51E-04	1.78E+03	7.51E+05
3/3/2010	9:40:00 AM	GZ-16	6.32E-07	6.32E-07	6.32E+02	6.32E+02
3/4/2010	9:18:00 AM	GZ-16	1.87E-06	1.87E-06	1.87E+03	1.87E+03
3/5/2010	9:11:00 AM	GZ-16	1.81E-06	1.81E-06	1.81E+03	1.81E+03
3/6/2010	9:46:00 AM	GZ-16	1.77E-06	1.77E-06	1.77E+03	1.77E+03
3/7/2010	8:29:00 AM	GZ-16	1.83E-06	1.83E-06	1.83E+03	1.83E+03
3/8/2010	11:53:00 AM	GZ-16	1.82E-06	1.82E-06	1.82E+03	1.82E+03
3/11/2010	10:22:00 AM	GZ-16	1.83E-06	1.83E-06	1.83E+03	1.83E+03
3/15/2010	1:31:00 PM	GZ-16	1.79E-06	1.79E-06	1.79E+03	1.79E+03

3/18/2010	10:46:00 AM	GZ-16	1.86E-06	1.86E-06	1.86E+03	1.86E+03
3/22/2010	3:06:00 PM	GZ-16	1.94E-06	1.94E-06	1.94E+03	1.94E+03
3/25/2010	1:19:00 PM	GZ-16	1.83E-06	1.83E-06	1.83E+03	1.83E+03
3/29/2010	2:05:00 PM	GZ-16	1.80E-06	1.80E-06	1.80E+03	1.80E+03
4/1/2010	12:41:00 PM	GZ-16	1.67E-06	1.67E-06	1.67E+03	1.67E+03
4/5/2010	11:50:00 AM	GZ-16	1.84E-06	1.84E-06	1.84E+03	1.84E+03
3/1/2010	9:13:00 AM	GZ-17	1.84E-06	1.84E-06	1.84E+03	1.84E+03
3/1/2010	9:14:00 AM	GZ-17	6.35E-07	6.35E-07	6.35E+02	6.35E+02
3/2/2010	8:14:00 AM	GZ-17	1.80E-06	1.80E-06	1.80E+03	1.80E+03
3/3/2010	8:17:00 AM	GZ-17	1.81E-06	1.81E-06	1.81E+03	1.81E+03
3/4/2010	8:17:00 AM	GZ-17	1.86E-06	1.86E-06	1.86E+03	1.86E+03
3/5/2010	7:45:00 AM	GZ-17	1.82E-06	1.82E-06	1.82E+03	1.82E+03
3/6/2010	8:57:00 AM	GZ-17	1.77E-06	1.77E-06	1.77E+03	1.77E+03
3/7/2010	7:51:00 AM	GZ-17	1.82E-06	1.82E-06	1.82E+03	1.82E+03
3/8/2010	10:40:00 AM	GZ-17	1.81E-06	1.81E-06	1.81E+03	1.81E+03
3/11/2010	8:46:00 AM	GZ-17	1.82E-06	1.82E-06	1.82E+03	1.82E+03
3/12/2010	7:55:00 AM	GZ-17	1.83E-06	1.83E-06	1.83E+03	1.83E+03
3/15/2010	8:43:00 AM	GZ-17	1.82E-06	1.82E-06	1.82E+03	1.82E+03
3/18/2010	7:54:00 AM	GZ-17	1.81E-06	1.81E-06	1.81E+03	1.81E+03
3/22/2010	7:58:00 AM	GZ-17	1.88E-06	1.88E-06	1.88E+03	1.88E+03
3/25/2010	7:52:00 AM	GZ-17	1.78E-06	1.78E-06	1.78E+03	1.78E+03
3/29/2010	8:25:00 AM	GZ-17	1.82E-06	1.82E-06	1.82E+03	1.82E+03
4/1/2010	9:46:00 AM	GZ-17	1.90E-06	1.90E-06	1.90E+03	1.90E+03
4/5/2010	8:06:00 AM	GZ-17	1.82E-06	1.82E-06	1.82E+03	1.82E+03
4/8/2010	8:17:00 AM	GZ-17	1.86E-06	1.86E-06	1.86E+03	1.86E+03
2/26/2010	1:50:00 PM	GZ-19	1.94E-06	1.94E-06	1.94E+03	1.94E+03
2/26/2010	1:51:00 PM	GZ-19	6.59E-07	6.59E-07	6.59E+02	6.59E+02
3/1/2010	10:59:00 AM	GZ-19	1.86E-06	1.86E-06	1.86E+03	1.86E+03
3/3/2010	9:18:00 AM	GZ-19	1.86E-06	1.86E-06	1.86E+03	1.86E+03
3/4/2010	9:49:00 AM	GZ-19	1.83E-06	1.83E-06	1.83E+03	1.83E+03
3/5/2010	8:44:00 AM	GZ-19	1.81E-06	1.81E-06	1.81E+03	1.81E+03
3/6/2010	9:25:00 AM	GZ-19	1.78E-06	1.78E-06	1.78E+03	1.78E+03
3/7/2010	8:15:00 AM	GZ-19	1.82E-06	1.82E-06	1.82E+03	1.82E+03
3/8/2010	11:21:00 AM	GZ-19	1.83E-06	1.83E-06	1.83E+03	1.83E+03
3/11/2010	10:08:00 AM	GZ-19	1.82E-06	1.82E-06	1.82E+03	1.82E+03
3/15/2010	1:14:00 PM	GZ-19	1.79E-06	1.79E-06	1.79E+03	1.79E+03
3/18/2010	10:16:00 AM	GZ-19	1.86E-06	1.86E-06	1.86E+03	1.86E+03
3/22/2010	1:30:00 PM	GZ-19	1.94E-04	1.94E-04	1.94E+05	1.94E+05
3/25/2010	1:42:00 PM	GZ-19	1.83E-06	1.83E-06	1.83E+03	1.83E+03

3/29/2010	1:32:00 PM GZ-19	1.80E-06	1.80E-06	1.80E+03	1.80E+03
4/1/2010	12:20:00 PM GZ-19	1.75E-06	1.75E-06	1.75E+03	1.75E+03
4/5/2010	11:27:00 AM GZ-19	1.96E-06	1.96E-06	1.96E+03	1.96E+03
4/8/2010	9:49:00 AM GZ-19	1.77E-06	1.77E-06	1.77E+03	1.77E+03
3/2/2010	10:32:00 AM GZ-19 (Deep)	1.80E-06	1.80E-06	1.80E+03	1.80E+03
3/2/2010	10:33:00 AM GZ-19 (Deep)	6.40E-07	6.40E-07	6.40E+02	6.40E+02
3/3/2010	10:25:00 AM GZ-19 (Deep)	1.81E-06	1.81E-06	1.81E+03	1.81E+03
3/4/2010	9:56:00 AM GZ-19 (Deep)	1.86E-06	1.86E-06	1.86E+03	1.86E+03
3/5/2010	8:59:00 AM GZ-19 (Deep)	1.81E-06	1.81E-06	1.81E+03	1.81E+03
3/6/2010	9:23:00 AM GZ-19 (Deep)	1.78E-06	1.78E-06	1.78E+03	1.78E+03
3/7/2010	8:18:00 AM GZ-19 (Deep)	1.82E-06	1.82E-06	1.82E+03	1.82E+03
3/8/2010	11:34:00 AM GZ-19 (Deep)	1.83E-06	1.83E-06	1.83E+03	1.83E+03
3/11/2010	10:05:00 AM GZ-19 (Deep)	1.83E-06	1.83E-06	1.83E+03	1.83E+03
3/15/2010	1:11:00 PM GZ-19 (Deep)	1.82E-06	1.82E-06	1.82E+03	1.82E+03
3/18/2010	10:33:00 AM GZ-19 (Deep)	1.86E-06	1.86E-06	1.86E+03	1.86E+03
3/22/2010	12:13:00 PM GZ-19 (Deep)	1.89E-06	1.89E-06	1.89E+03	1.89E+03
3/25/2010	1:54:00 PM GZ-19 (Deep)	1.83E-06	1.83E-06	1.83E+03	1.83E+03
3/29/2010	1:46:00 PM GZ-19 (Deep)	1.80E-06	1.80E-06	1.80E+03	1.80E+03
4/1/2010	12:26:00 PM GZ-19 (Deep)	1.75E-06	1.75E-06	1.75E+03	1.75E+03
4/5/2010	11:08:00 AM GZ-19 (Deep)	1.97E-06	1.97E-06	1.97E+03	1.97E+03
4/8/2010	9:59:00 AM GZ-19 (Deep)	1.78E-06	1.78E-06	1.78E+03	1.78E+03
3/8/2010	4:10:00 PM GZ-20	1.84E-06	6.29E-04	1.84E+03	6.29E+05
3/9/2010	7:52:00 AM GZ-20	1.84E-06	6.24E-04	1.84E+03	6.24E+05
3/10/2010	7:46:00 AM GZ-20	1.90E-06	6.45E-04	1.90E+03	6.45E+05
3/11/2010	8:08:00 AM GZ-20	1.83E-06	6.25E-04	1.83E+03	6.25E+05
3/12/2010	8:26:00 AM GZ-20	1.83E-06	5.40E-04	1.83E+03	5.40E+05
3/13/2010	8:02:00 AM GZ-20	1.84E-06	5.47E-04	1.84E+03	5.47E+05
3/14/2010	9:01:00 AM GZ-20	1.78E-06	5.14E-04	1.78E+03	5.14E+05
3/15/2010	11:05:00 AM GZ-20	1.82E-06	4.92E-04	1.82E+03	4.92E+05
3/16/2010	8:41:00 AM GZ-20	1.73E-06	4.38E-04	1.73E+03	4.38E+05
3/17/2010	9:01:00 AM GZ-20	1.81E-06	5.31E-04	1.81E+03	5.31E+05
3/18/2010	9:12:00 AM GZ-20	1.81E-06	4.28E-04	1.81E+03	4.28E+05
3/19/2010	9:14:00 AM GZ-20	1.85E-06	3.53E-04	1.85E+03	3.53E+05
3/20/2010	9:36:00 AM GZ-20	1.85E-06	3.10E-04	1.85E+03	3.10E+05
3/21/2010	9:12:00 AM GZ-20	1.88E-06	2.96E-04	1.88E+03	2.96E+05
3/22/2010	10:17:00 AM GZ-20	1.88E-06	2.58E-04	1.88E+03	2.58E+05
3/24/2010	8:42:00 AM GZ-20	1.85E-06	1.79E-04	1.85E+03	1.79E+05
3/25/2010	9:07:00 AM GZ-20	1.78E-06	1.07E-04	1.78E+03	1.07E+05
3/29/2010	11:47:00 AM GZ-20	1.82E-06	1.06E-04	1.82E+03	1.06E+05

4/1/2010	11:17:00 AM	GZ-20	1.76E-06	1.16E-04	1.76E+03	1.16E+05
4/5/2010	9:25:00 AM	GZ-20	1.81E-06	1.30E-04	1.81E+03	1.30E+05
4/8/2010	8:58:00 AM	GZ-20	1.78E-06	2.09E-04	1.78E+03	2.09E+05
3/16/2010	8:20:00 AM	GZ-21	1.79E-04	2.65E-04	1.79E+05	2.65E+05
3/17/2010	3:13:00 PM	GZ-21	1.81E-06	1.15E-03	1.81E+03	1.15E+06
3/18/2010	8:51:00 AM	GZ-21	1.81E-06	1.38E-03	1.81E+03	1.38E+06
3/19/2010	9:00:00 AM	GZ-21	1.86E-06	1.48E-03	1.86E+03	1.48E+06
3/20/2010	9:55:00 AM	GZ-21	1.85E-06	1.54E-03	1.85E+03	1.54E+06
3/21/2010	8:58:00 AM	GZ-21	1.88E-06	1.60E-03	1.88E+03	1.60E+06
3/22/2010	10:26:00 AM	GZ-21	1.88E-06	1.70E-03	1.88E+03	1.70E+06
3/26/2010	9:09:00 AM	GZ-21	1.83E-06	1.36E-04	1.83E+03	1.36E+05
3/27/2010	8:37:00 AM	GZ-21	1.79E-06	5.35E-04	1.79E+03	5.35E+05
3/28/2010	9:08:00 AM	GZ-21	1.82E-06	1.22E-03	1.82E+03	1.22E+06
3/29/2010	12:27:00 PM	GZ-21	1.82E-06	1.45E-03	1.82E+03	1.45E+06
3/30/2010	8:48:00 AM	GZ-21	1.80E-06	1.70E-03	1.80E+03	1.70E+06
3/31/2010	9:29:00 AM	GZ-21	1.78E-06	1.75E-03	1.78E+03	1.75E+06
4/1/2010	11:01:00 AM	GZ-21	1.75E-06	1.81E-03	1.75E+03	1.81E+06
4/2/2010	9:05:00 AM	GZ-21	1.70E-06	1.64E-03	1.70E+03	1.64E+06
4/3/2010	8:34:00 AM	GZ-21	1.82E-06	1.96E-03	1.82E+03	1.96E+06
4/4/2010	8:40:00 AM	GZ-21	1.82E-06	1.90E-03	1.82E+03	1.90E+06
4/5/2010	9:00:00 AM	GZ-21	1.82E-06	1.92E-03	1.82E+03	1.92E+06
4/6/2010	8:48:00 AM	GZ-21	1.84E-06	2.03E-03	1.84E+03	2.03E+06
4/7/2010	9:04:00 AM	GZ-21	1.85E-06	1.96E-03	1.85E+03	1.96E+06
4/8/2010	8:47:00 AM	GZ-21	1.86E-06	2.04E-03	1.86E+03	2.04E+06
4/9/2010	9:30:00 AM	GZ-21	1.78E-06	2.07E-03	1.78E+03	2.07E+06

Q.CLF:EN.1-5: Admit that between January and March 2010 monitoring wells at the VT Yankee facility have shown levels of radionuclides, including tritium in excess of EPA drinking water standards.

A.CLF:EN.1-5: OBJECTION. The request does not define the term "EPA drinking water standards." For purposes of this response, Entergy VY assumes that CLF is referring to the standard contained in 40 C.F.R. § 141.66, which sets a maximum concentration of tritium in drinking water of 20,000 picocuries per liter of drinking water. The request is also imprecise as to the time period to be addressed.

Without waiving any objection, Entergy VY responds:

ADMITTED that Entergy VY has obtained samples from certain groundwater-monitoring wells installed at the VY Station that have tested for levels of tritium in excess of 20,000 picocuries per liter. The water sources being tested by the monitoring wells, which have tested for tritium in excess of 20,000 picocuries per liter, are not drinking water, and therefore the drinking water standard does not apply to those samples; those wells are discussed in the Sworn Affidavit of Jeffery A. Hardy, March 31, 2010, and listed in Exhibit EN-JH-5. The testing results referenced in Mr. Hardy's affidavit are current through late March, but not all the way through March 31, 2010. Otherwise, DENIED.

See also Attachment A.CLF:EN.1-4a for more recent monitoring-well test results.

Person Responsible for Response: Jeffery A. Hardy
Title: Chemistry Manager
Date: April 12, 2010

Q.CLF:EN.1-7: Admit that the groundwater in the monitoring wells at Vermont Yankee is hydrologically connected to the Connecticut River.

a. If denied, identify all facts, and produce all documents on which Entergy VY relies to support its denial.

A.CLF:EN.1-7: OBJECTION. The question is vague and ambiguous and calls for speculation.

Without waiving any objection, Entergy VY responds:

ADMITTED that groundwater at the VY Station is moving in a general easterly direction toward the Connecticut River, that impacts downgradient (east) of the perimeter wells are anticipated, and that it is likely that some level of tritium-affected groundwater has reached or will in the future reach the Connecticut River.

ADMITTED further that since January 2010 Entergy VY has tested the Connecticut River for tritium, and all samples tested indicated tritium concentrations of less than MDA.

a. See the Sworn Affidavits and Exhibits of Michael Shaw and Jeffery A. Hardy dated March 31, 2010, and Attachment A.CLF:EN.1-7a, which provides the results of testing of water from the Connecticut River as part of the tritium investigation.

Person Responsible for Response: Michael Shaw (first paragraph); Jeffery A. Hardy (second paragraph)
Title: Consultant; Chemistry Manager
Date: April 12, 2010

Q.CLF:EN.1-8: Admit that the finding of tritium in groundwater at Vermont Yankee signals that there has been an unintended underground release of radioactive material.

a. If denied, identify all facts, and produce all documents on which Entergy VY relies to support its denial.

A.CLF:EN.1-8: OBJECTION. The question is vague and ambiguous and calls for speculation.

Without waiving any objection, Entergy VY responds:

ADMITTED that during the time period from November 2009 until February 15, 2010, a fluid stream containing radionuclides was released from a pipe tunnel on the west side of the AOG building at the VY Station. Further ADMITTED that the fluid stream release was not intended by Entergy VY. As to the general proposition that the finding of tritium in groundwater at the VY Station would in other instances "signal that there has been an unintended underground release of radioactive material," Entergy VY would have to speculate as to the factual predicate for such a proposition, so that it cannot admit or deny that aspect of the request to admit.

a. See A.CLF:EN.1-8.

Person Responsible for Response: Timothy C. Trask
Title: Chief Engineer—Boiling Water Reactors
Date: April 12, 2010

Q.CLF:EN.1-11: Admit that water containing radionuclides, including tritium has been identified outside of the above identified location of the contaminated groundwater plume.

A.CLF:EN.1-11: See Objection and A.CLF:EN.1-10, which are incorporated herein by reference.

Without waiving any objection, Entergy VY responds:

ADMITTED that Entergy VY has detected tritium in groundwater-monitoring wells located outside of the preliminary plume shown on Exhibit EN-MS-4. Otherwise, DENIED.

Person Responsible for Response: Jeffery A. Hardy
Title: Chemistry Manager
Date: April 12, 2010

Q.CLF:EN.1-13: Admit that water in the plume is reaching the Connecticut River.

a. If denied, identify all facts, and produce all documents on which Entergy VY relies to support its denial.

A.CLF:EN.1-13: OBJECTION. The question is vague and ambiguous and calls for speculation. For Entergy VY's position with respect to the "plume," see A.CLF:EN.1-10, incorporated by this reference.

Without waiving any objection, Entergy VY responds:

ADMITTED that groundwater at the VY Station is moving in a general easterly direction toward the Connecticut River, that impacts downgradient (east) of the perimeter wells are anticipated, and that it is likely that some level of tritium-affected groundwater has reached or will in the future reach the Connecticut River.

ADMITTED further that since January 2010 Entergy VY has tested the Connecticut River for tritium, and all samples tested indicated tritium concentrations of less than MDA.

a. See the Sworn Affidavits and Exhibits of Michael Shaw and Jeffery A. Hardy dated March 31, 2010, and Attachment A.CLF:EN.1-7a, which provides the results of testing of water from the Connecticut River as part of the tritium investigation.

Person Responsible for Response: Michael Shaw (first paragraph); Jeffery A. Hardy (second paragraph)
Title: Consultant; Chemistry Manager
Date: April 12, 2010

Q.CLF:EN.1-14: Admit that the radionuclides and radioactive material from the leaks remain in one or all of the following locations:

a. The soil at the site.

b. The groundwater at the site.

c. The Connecticut River.

d. If denied, identify all facts, and produce all documents on which Entergy VY relies to support its denial.

A.CLF:EN.1-14:

OBJECTION. The request is vague and ambiguous. The request is also overly broad and unduly burdensome in that the request for "all documents" would require Entergy VY to search for and to assemble a voluminous amount of information from its records at substantial expense.

Without waiving any objection, Entergy VY responds:

a. ADMITTED that soil below an excavation on the west side of the AOG building at the VY Station contains radionuclides from leakage described in A.CLF:EN.1-2. Otherwise, DENIED.

b. ADMITTED that groundwater at certain locations at the VY Station contain tritium resulting from the leakage described in A.CLF:EN.1-2. Otherwise, DENIED.

c. See A.CLF:EN.1-13, incorporated by this reference.

d. See Sworn Affidavits and Exhibits of Timothy G. Mitchell, Timothy C. Trask, Jeffery A. Hardy, Michael Shaw and David P. Tkatch and Attachments A.CLF:EN.1-4a and A.CLF:EN.1-7a. See also A.CLF:EN.1-13a, incorporated by this reference.

Person Responsible for Response: David P. Tkatch (a), (d); Jeffery A. Hardy (b), (d); Michael Shaw (c) (d)
Title: Radiation Protection Manager; Chemistry Manager; Consultant
Date: April 12, 2010

Q.CLF:EN.1-16: Admit that Entergy VY has no legal authority to discharge waste, including radionuclides and radioactive material from the Vermont Yankee facility into waters.

a. If denied, produce any documents, including any permits or other records, which Entergy VY relies on for authority to discharge from the Vermont Yankee facility into waters.

b. Produce the most recent application to any state or federal authority, including any National Pollutant Discharge Elimination System (NPDES) permit, for authorization to discharge from the Vermont Yankee facility into waters.

A.CLF:EN.1-16: OBJECTION. The request calls for a legal conclusion and for the production of documents that are privileged. Also, the request is vague and ambiguous (*e.g.*, definitions of "authority," "waste").

Without waiving any objection, Entergy VY responds:

DENIED.

a. See Attachment A.CLF:EN.1-16a.1 (03-31-06 NPDES Amended Permit), Attachment A.CLF:EN.1-16a.2 (03-31-06 NPDES Fact Sheet) and Attachment A.CLF:EN.1-16a.3 (2005 NPDES Permit Renewal Application Package).

b. See A.CLF:EN.1-16a.

Person Responsible for Response: Jeffery A. Hardy; Lynn DeWald
Title: Chemistry Manager; Senior Environmental Specialist
Date: April 12, 2010

Clean up:

Q.CLF:EN.1-17: Admit that the soil and water at the site containing radionuclides and radioactive material will be removed either before or as part of decommissioning.

a. If denied, explain why such materials will not be removed.

A.CLF:EN.1-17: OBJECTION. The request is vague and ambiguous and calls for speculation.

Without waiving any objection, Entergy VY responds:

ADMITTED that Entergy VY is currently in the process of removing soil and water at the site that contains radionuclides. Further ADMITTED that Entergy VY will comply with the NRC's regulations for termination of the VY Station's license, including the radiological criteria for license termination found in 10 C.F.R. Part 20. The amount of soil or water that would need to be removed at decommissioning, if any, to meet the regulatory requirements will depend on, among other things, the timing of the termination of the license. This is because the radionuclides continue to decay to non-radioactive elements over time. By way of example, over a 62-year period of time approximately 97 percent of an initial quantity of tritium will have decayed to non-radioactive helium. At the time of license termination, any residual radionuclides from the recent tritium-release event may have decayed sufficiently to be within the applicable license-termination criteria without further actions. Otherwise, DENIED.

a. See A.CLF:EN.1-17.

Person Responsible for Response: Jager Smith, Esq.
Title: Legal Counsel
Date: April 12, 2010

Q.CLF:EN.1-18: Admit that the existence of tritium and radioactive material in the soil and groundwater at the site will increase the cost to decommission and clean up the facility site following closure of the plant.

a. If denied, identify all facts, and produce all documents on which Entergy VY relies to support its denial.

b. Whether admitted or denied, provide all documents showing any analysis undertaken or information gathered that identifies or in any way evaluates the decommissioning and/or clean-up costs at the VY facility that specifically take into account the existence of tritium, radionuclides and radioactive material added to the ground and/or groundwater since January 2010.

c. If admitted, provide all documents containing any information estimating the cost and provide all factual information on which this estimate is based.

A.CLF:EN.1-18: OBJECTION. The question is vague and ambiguous and calls for speculation. Without waiving any objection, Entergy VY responds:

Entergy VY cannot admit or deny the request for admission at this time. Entergy VY has begun a groundwater-extraction initiative and also intends to excavate and remove approximately 150 cubic feet of soil as explained at pages 9-10 of the Sworn Affidavit of Timothy G. Mitchell, dated March 31, 2010. As further discussed by Mr. Mitchell at page 12 of his Sworn Affidavit, the results of the current remediation effort will be reviewed in the preparation of the next decommissioning-cost study. See also A.CLF:EN.1-17.

a. See A.CLF:EN.1-18.

b. Entergy VY does not have any responsive documents in its possession, custody or control at this time.

c. Not applicable.

Person Responsible for Response: Timothy G. Mitchell; Jager Smith, Esq.
Title: Senior Vice President, Engineering and Technical Services; Legal Counsel
Date: April 12, 2010

Q.CLF:EN.1-23: Admit that uncontrolled and unmonitored releases of radioactively contaminated water at a nuclear facility are unlawful

A.CLF:EN.1-23: OBJECTION. The question calls for a legal conclusion, and the reference to "uncontrolled and unmonitored releases of radioactively contaminated water" is vague and ambiguous. Further, use of the word "unlawful" in the question is vague. The request also seeks information that is privileged.

Without waiving any objection, Entergy VY responds:

DENIED. The NRC's limits and ALARA ("as low as reasonably achievable") dose controls apply both to routine releases and non-routine releases, such as leaks and spills. Regardless of the nature or source, Entergy VY must account for the release and evaluate the release relative to NRC and various other agencies' requirements. To the extent that releases fall within regulatory limits, they are not unlawful.

Person Responsible for Response: Jager Smith
Title: Legal Counsel
Date: April 12, 2010

Future Use:

Q.CLF:EN.1-31: Admit that the presence of radionuclides, including tritium and radioactive material in the ground and in the groundwater at the site limits the future uses of the site.

a. If denied, identify all facts, and produce all documents on which Entergy VY relies to support its denial.

A.CLF:EN.1-31: OBJECTION. The question is vague and ambiguous and calls for speculation.

Without waiving any objection, Entergy VY responds: DENIED.

a. See A.CLF:EN.1-17, incorporated by this reference. See the Sworn Affidavit of Timothy G. Mitchell, dated March 31, 2010. See also A.CLF:EN.1-18b and Attachment A.CLF:EN.1-31 (Memorandum of Understanding Among Entergy Nuclear Vermont Yankee, LLC, Vermont Yankee Nuclear Power Corporation, Central Vermont Public Service Corporation, Green Mountain Power Corporation, and Vermont Department of Public Service, modified and approved by the Board in Docket No. 6545, at Sections 3 and 9, under which Entergy VY is obligated to restore the site of the VY Station as provided therein).

Person Responsible for Response: Timothy G. Mitchell
Title: Senior Vice President, Engineering and Technical Services
Date: April 12, 2010

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

GENERAL COUNSEL

July 9, 2010

Jim Riccio
Nuclear Policy Analyst
Greenpeace
702 H Street NW, Suite 300
Washington, D.C. 20001

Dear Mr. Riccio:

I am responding to your letter to the Commission of May 25, 2010, which suggests that the Office of the General Counsel (OGC) has attempted, "under the guise of federal preemption", to "handcuff state governments" in their efforts to protect groundwater. You were prompted to write this letter because it came to your attention during a public meeting the U.S. Nuclear Regulatory Commission (NRC) held recently that OGC had written to the office of the Illinois Attorney General four years ago to express OGC's concerns about actions the State was taking onsite at the Braidwood plant to protect groundwater from unplanned releases of tritium. You ask the agency to "confirm in writing that the NRC recognizes that it is both legal and appropriate for the States to take action against licensees when drinking water is under threat."

The NRC has certainly never denied that States have some authority over groundwater. There is, for example, nothing in the 2006 letter that even suggests that Illinois had no authority to take some action against the Braidwood licensee. Indeed, some years ago, when the NRC was considering what form of regulation would be best for in situ leach mining facilities, the NRC initially sought to have the States regulate groundwater at such facilities. *See, e.g.,* Regulatory Issue Summary 2004-09, June 7, 2004. But NRC cannot set forth, in writing, just which actions the State could take, and under what circumstances there is no interference with our regulatory authority. As your letter observes, "the ability of the states to enforce these laws against licensed nuclear facilities has not been tested."

Over the years, the NRC has generally avoided making declarations about what States, or other Federal agencies, can and cannot do. For example, when the Nuclear Energy Institute in 2002 petitioned the agency to restate Federal preemption law, and to provide procedures whereby any person could request an NRC staff determination as to whether a particular State or local requirement was preempted by NRC's requirements, the NRC denied the petition, partly because any opinion the agency issued would be at best only guidance as to how a court might rule when faced with a preemption challenge to a State or local action. *See* 67 Fed. Reg. 66074, 66076 (Oct. 30, 2002). As far as I know, only once, when the City of New York was requiring Columbia University to get a radiological safety permit from the City, has the NRC appeared in court as a plaintiff seeking a ruling that the Atomic Energy Act preempted State or local action. *See U.S. v. City of New York*, 463 F.Supp. 604 (S.D.N.Y., 1978). Even when the controversy has been over releases of tritium from nuclear power plants, the agency has generally avoided statements about what a State can and cannot do.

The exceptions to the NRC's general policy of not making declarations in regard to preemption have arisen in situations that demanded some clarification of lines of authorities. For example, when, in the mid-1990s, the U.S. Environmental Protection Agency (EPA) rescinded its regulation of nuclear power plants under the Clean Air Act, the question arose whether States exercising authority under the same Act retained any authority over those same plants. Both the EPA and the NRC agreed that, yes, the States did retain such authority, even though EPA no longer exercised its own authority. Indeed, the EPA and the NRC said that the States could set more stringent standards for radionuclide air emissions from these plants than did the NRC. 60 Fed. Reg. 46206, 46210 (September 5, 1995). Another case in which lines of authorities demanded clarification was the case, already mentioned, in which New York City sought to require that Columbia have a radiological health and safety permit from the City. The Atomic Energy Act clearly reserves to the NRC the regulation of the radiological health and safety aspects of nuclear reactors. *See, e.g.*, section 274c.(1) of the Act, 42 U.S.C. 2021(c)(1).

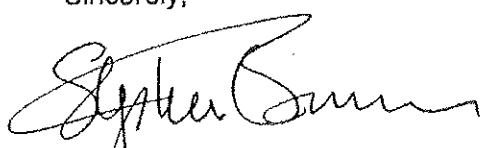
The letter OGC sent to Illinois is another such case. Each of the seven specific concerns that the letter raised had to do with actions the State sought to take onsite, for radiological health and safety reasons, sometimes in ways that had safety implications for plant operations. The Atomic Energy Act clearly reserves such actions to the NRC. True, the letter said that the NRC might "seek leave to participate in the [then already existing county] lawsuit to raise the Commission's preemption concerns." But a government agency must be free to request such participation if that agency determines that it needs to convey its views to a court. The alternative is a doctrine that an agency must always depend on private litigants or other governmental entities to seek to draw boundaries of its own authority. OGC's letter did not deny that the State had authority to take some action toward the licensee, and indeed the letter did not assert that the State was entirely without authority to take even action that could affect plant operations. The EPA, for example, has Clean Water Act authority over water intake structures at nuclear power plants, but, for nuclear safety reasons, the EPA exercises such authority only in consultation with the NRC. *See* 69 Fed. Reg. 41576, 41585 (July 9, 2004). The same is reasonably to be expected of States acting in similar circumstances. In the end, as a result of the consultations between OGC and the Illinois Attorney General's Office, the NRC did not intervene in the lawsuit, and Illinois proceeded with its action against the NRC licensee.

Preemption law is far too complex for easy generalization. The distribution of authorities among Federal and State governmental entities is one thing under the Clean Water Act, another under the Clean Air Act, another under the Atomic Energy Act, and yet another under the Coastal Zone Management Act. Consultations among governments on environmental matters are often essential, and States frequently initiate such consultations. You "think it notable and deserving of Congressional attention if the NRC were to exercise its preemptive authority on behalf of the nuclear industry in order to block State regulators from holding nuclear corporations accountable for the contamination of drinking water resources." However, the sentence misses the mark on several grounds -- for example, in its suggestion that the NRC would seek preemption in order to protect the industry, and the implication that the NRC has expansive preemptive authority that it can exercise unilaterally. But the sentence is especially troubling to the extent it suggests that Congress should prevent one government agency from expressing concerns about where the line is between its and another government agency's respective jurisdictions. Such consultations are a necessary part of the attentive implementation of complex statutes enacted in the public interest.

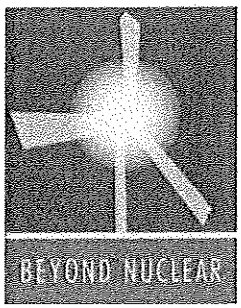
With respect to the general issue of groundwater, I am sure you are now aware that the report of the NRC's Groundwater Task Force has been issued and the Executive Director of Operations has formed a senior management review group to evaluate the report and make recommendations for Commission consideration later this year.

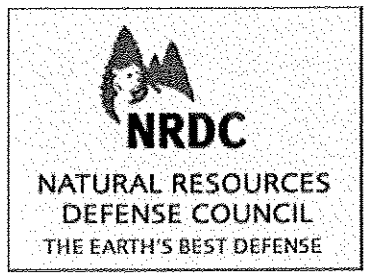
Please do not hesitate to contact me if you have questions about NRC's legal framework.

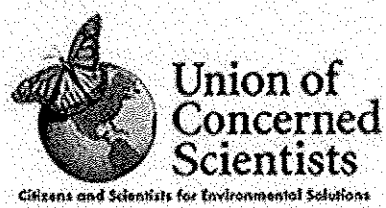
Sincerely,



Stephen G. Burns
General Counsel







May 25, 2010

Chairman Gregory B. Jaczko
Commissioner George Apostolakis
Commissioner William D. Magwood, IV
Commissioner William C. Ostendorff
Commissioner Kristine L. Svinicki

Dear Chairman Jaczko & Commissioners

On April 20th, the U.S. Nuclear Regulatory Commission (NRC) held a meeting seeking public input into the NRC's handling of groundwater contamination at nuclear reactor sites across the United States.

During the meeting, it was brought to our attention that on July 5, 2006, the NRC's Office of General Counsel (OGC) issued a letter to the Illinois Attorney General threatening to intervene in Illinois v Exelon Corp., No. 06 MR 248 (Will County Court) (Attached). The NRC's OGC wrote that, "if the lawsuit moves forward one option for us is to seek leave to participate in the lawsuit to raise the Commission's preemption concerns."

Today we seek further clarification regarding the NRC's intent with respect to similar situations. In situations where States find that their drinking water resources are being affected by inadvertent discharges from licensed nuclear facilities, we hope that the NRC already recognizes that States have an obligation to protect their citizens that is not preempted by the Atomic Energy Act. Although we are gratified that recent comments by the NRC in the press have recognized the "states have a role to play" in such situations, this is somewhat vague. Please confirm in writing that the NRC recognizes that it is both legal and appropriate for the States to take action against licensees when drinking water is under threat.

This recognition of State powers in this area would not deprive the NRC of the means to regulate such situations. Congress has made it clear that the specific language of the AEA expressly prohibits the NRC from licensing source, special nuclear, or byproduct materials if the operation "would be inimical to the common defense and security or the health and safety of the public." 42 USC § 2099; 42 USC § 2034; and 42 USC § 2077(c)(2). Put simply, the NRC may not allow a nuclear facility to operate in an unsafe manner. We presume the Commission would agree with such a characterization of its obligations and takes a broad view of those powers. We also presume the Commission is equally troubled that there have been dozens of instances in the recent past of contaminated groundwater at licensed NRC reactor facilities. If the Commission had been taking sufficient action pursuant to these powers, we believe States would not have felt an obligation to intervene. We believe that the recent trend of increasing State involvement with nuclear facilities can be traced to a lack of adequate action by the NRC.

Rather than enforcing regulations governing the unmonitored and uncontrolled release of radiation into groundwater, the NRC endorsed a voluntary industry initiative run by the industry's trade association, the Nuclear Energy Institute. We think it is time for the Commission to take a different path. At the very least, we urge that the NRC should not try to handcuff states performing the work that the agency should have been doing in the first instance. Indeed, we think it notable and deserving of Congressional attention if the NRC were to exercise its preemptive authority on behalf of the nuclear industry in order to block state regulators from holding nuclear corporations accountable for the contamination of drinking water resources. Indeed, the NRC's actions in the Illinois case referenced above clearly illustrate that clarification of the AEA's apportionment of regulatory authority to protect important economic and environmental resources – such as a State's vital interest in protecting its groundwater – is long overdue. We can assure you that any further attempts to handcuff state governments under the guise of federal preemption will precipitate greater controversy.

When drinking water is not under threat, the regulatory situation is less clear. The nuclear industry has already aggressively exploited this lack of regulatory clarity in what state regulators can and cannot do. And equally important, the industry finds comfort in the assurance that the NRC has, thus far, required little and even threatened to preempt those States that have the temerity to enforce requirements protective of public health and the environment.

This lack of regulatory clarity was illustrated at the April 20th meeting. Even the nuclear industry's advocates admitted "[t]he plants did not have legal authorization to release radioactive material to groundwater." But on the other hand, an industry advocate at the Morgan Lewis firm stated that while "(t)he Clean Water Act requires a permit to discharge any pollutant into a water of the United States," he/she points out that "groundwater is NOT a water of the United States." (Both presentations were provided to NRC by Greenpeace after the April

20th meeting but are still unavailable for public review in the NRC's publicly accessible ADAMS database.) Many states' laws prohibit unpermitted discharges of radioactive substances to groundwater, but the ability of the states to enforce these laws against licensed nuclear facilities has not been tested.

It is evident that the nuclear industry and its attorneys recognize that they lack the legal authority to release radiation or any pollutant into groundwater. We believe such action is clearly "inimical to the health and safety of the public." We are therefore dismayed that the NRC remains reluctant, at best, to act on such matters. Given the lack of NRC action in this area, the public is at a loss to understand why the NRC's OGC would countenance interference with State efforts to protect groundwater.

As a result of the groundwater contamination issues at dozens of operating nuclear reactor sites across the country, NRC's credibility as a regulator of the public heath and safety has been called into question. Since the NRC has chosen not to enforce its mandate to protect human health and safety with respect to the multiple groundwater contamination issues, we strongly urge the NRC to cease any attempts to preempt state governments from exercising their authority to protect important economic and environmental resources within their borders.

Sincerely,

Paul Gunter
Beyond Nuclear

Richard Webster
Eastern Environmental Law Center

Jim Riccio
Greenpeace

Geoffrey H. Fettus
Natural Resources Defense Council

Phillip Musegaas
Riverkeeper

Dave Lochbaum
Union of Concerned Scientists

CC: Senator Bernie Sanders, Senator Patrick Leahy, Senator Charles Schumer, Senator Kirsten Gillibrand, Senator Frank Lautenberg, Senator Robert Menendez, Congressman Edward J. Markey, Congressman John Adler, Congressman John Hall, Congressman Dennis Kucinich, Congressman Christopher H. Smith, Congressman Peter Welch